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VOL. XIV. NO. 14.

JULY 15, 1886.

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BEEKEEPING

& HOME INTERESTS.

MEDINA, OHIO.

BY
A. ROOT

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A. I. ROOT, Medina, Ohio.

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If you think them hardier, send me an order for queens, warranted pure Italians, bright colored. Any one buying five queens, I will send him one pair of standard W. L. chicks free. Price of queens, \$1.25; price of chicks, \$2.00 a pair.

C. A. DEARBORN,

14-16db Hudson, St. Croix Co., Wis.

ONE-DOLLAR QUEENS.

I will give you a printed guarantee of purity of every untested queen sent at \$1 each before Sept. 15.

14-16db J. B. HAINS, Bedford, Cuyahoga Co., O.

HONEY COLUMN.

CITY MARKETS.

NEW YORK.—Honey.—Owing to the writer's absence from business on account of sickness, we have not been able to furnish quotations of late in regard to the honey market. In future we shall be glad to quote regularly as usual. We quote: There is considerable old comb honey in market yet, for which there is but little demand at prices ranging from 8@10c for a fair grade of white-clover honey. Buckwheat unsalable. Our market is stocked with California extracted honey, which sells at 5@6c per lb. New Southern strained is coming to market quite fast, and is sold at from 50@55c per gallon.

BEE-SWAX.—A good run of yellow, at from 22@24c per lb. THURBER, WHYATT & CO.,
July 3, 1886. Reade and Hudson Sts.,
New York, N. Y.

MILWAUKEE.—Honey.—The supply of honey is much better, both in quantity and quality. The new is very nice indeed. The demand is not large. We will quote white choice 1-lb. sections, 16@17; white choice large sections, 15@16; dark, nominal, 10@15; extracted, in tin, white choice, 7@9; extracted, in bbls. and kegs, 6@7. BEE-SWAX, 24@25.

June 23, 1886. A. V. BISHOP,
142 W. Water St., Milwaukee, Wis.

DETROIT.—Honey.—New honey is coming in quite freely, and is bringing from 11@13c. The quality is generally better than for years. BEE-SWAX firm at 25.

July 12, 1886. M. H. HUNT,
Bell Branch, Mich.

FOR SALE.—About 400 lbs. of extracted honey.
EDWIN STUBB, Wakefield, Lancaster Co., Pa.

FOR SALE.—6000 lbs white-clover honey, at 6¼c in bbls. of 555 lbs., or in 100-lb. kegs, at 7c. Satisfaction guaranteed. Honey thick and well ripened.

ROBT. QUINN, Shellsburg, Iowa.

WANTED.—To buy from 200 to 500 lbs. new white-clover honey in 1-lb. sections. References furnished. Address C. H. OSBORN, JR.,
Cor. 5th Ave. and Hunter St., Columbus, Ohio.

WANTED.—A few hundred lbs. of A No. 1 extracted honey, delivered here, at 7c per lb. Write stating quality and conditions, and I will give shipping directions. D. S. HALL, So. Cabot, Vt.

CIRCULARS RECEIVED.

The following have sent us their price lists:

J. W. H. Fisher, Franklin Mills, Pa., Albino and Italian queens and bees.

B. Walker & Co., Capac, Mich., 4-page circular of apiarian supplies. One-piece sections and reversible hives a specialty.

S. Valentine & Sons, Hagerstown, Md., 4-page supplement, the Success hive; also apiarian supplies.

CONVENTION NOTICES.

The Illinois Central Bee-keepers' Association will hold its next meeting at Mt. Sterling, Ill., on Tuesday and Wednesday, Oct. 19 and 20. J. M. HAMBAUGH, Sec.

The St. Joseph Inter-State Bee-keepers' Association will hold its annual meeting on Wednesday eve of Exposition week, Sept. 1. Programme later. E. T. ABBOTT, Sec.

COLONY in 10-frame hive, \$5.00; tested queens, \$1.50; untested queens, 75 cts.; 2-frame nucleus, \$1.50; 3-frame nucleus, \$2.00 (no queen). 1 have Italian bees; size of above frame, 9½x17½.

OTTO KLEINOW, Detroit, Mich., (Opp. Fort Wayne Gate).

CRYSTAL FRUIT-JARS CHEAP.

SELF-SEALING. BEST QUALITY.

1-pint jars, per gross,	\$10 00
1-quart " " " "	12 00
½-gallon " " " "	15 00

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is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

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Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary and unsolicited testimonials**, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,

3btfd **Hamilton, Hancock Co., Illinois.**

Batchelder's Drone and Queen Trap

Is the only one made that does not hinder the bees in their work. Send 85 cents for sample. Send for circular, and see what A. I. Root says about it.

10tfdb **J. A. BATCHELDER, Keene, N. H.**

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WEEKLY, \$1.00 PER YEAR.

JONES, McPHERSON & CO., Publishers, Beeton, Ontario, Canada.

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REDUCTION IN PRICES.

We hereby notify our customers that there is a reduction in foundation from the prices quoted in our *March* retail price list. All parties interested will please mail us a card for new prices.

CHAS. DADANT & SON,

11tfdb **Hamilton, Hancock Co., Ill.**

Italian Queens sent by Mail.

Untested queens from imported mother, April, \$1.25; May, June, and July, \$1.00. After April, per half-dozen, \$5.00. **E. CRUDGINGTON & SON,** 6tfdb Breckinridge, Stephens Co., Texas.

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Western headquarters for bee-men's supplies. Four-piece sections, and hives of every kind, a specialty. Flory's corner-clamps, etc. Orders for sections and clamps filled in a few hours' notice. Send for sample and prices.

M. R. MADARY,

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One ten-inch Root comb-mill, second hand. The mill has, however, been completely fitted up, painted, and varnished, and is, to all appearances, both in looks and quality of work, equal to a new one. Price \$15.00. The list price of a new mill of this kind is \$20.00. **A. I. ROOT, Medina, O.**

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June 1, Queen, \$3 50; ½ dozen, - - -	\$18 00
July 1, " 3 00; " - - -	15 00
Aug. 1, " 2 50; " - - -	12 00
Sept. 1, " 2 25; " - - -	10 50

ITALIAN * QUEENS

of the best strains, bred in a separate apiary, 49 miles distant, warranted purely mated:

June 1, Queen, \$1 00; ½ dozen, - - -	\$5 00
July 1, " 1 00; " - - -	5 00
Aug. 1, " 1 00; " - - -	4 50

Address **J. B. MASON & SONS,**

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600 LBS. OF BEES ON HAND YET.

Bees, \$1.00; queens, black or hybrid, when I have them, 35 cents. Queens raised from imported mothers, after July 1, 65 cts. by mail; 50 cts., with 1 lb. of bees by express, charges paid by me, as in May.

THOMAS GEDYE,

12tfdb **La Salle, La Salle Co., Ill.**

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200 1½-story Simplicity hives in flat; 40,000 one-piece one-pound sections; 75,000 one-piece 2-lb. sections, size 5¼x6; 10,000 brood-frames, V-shape; 5,000 broad frames for sections; 200 1½-story Simplicity hives, nailed and painted.

Address **R. L. SHOEMAKER,**

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AT THE LOWEST PRICES.

ITALIAN QUEENS AND BEES.

J. C. SAYLES,

2 tfd **Hartford, Washington Co., Wis.**

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Down, Down, Goes the Price.

First Quality, White Basswood, One-Pound Sections, In lots of 500 to 3000, \$4.00 per 1000.

SPECIAL FREIGHT RATES.

If 3000 or more are wanted, write for special prices, delivered to you, freight paid by us.

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April 15, 1886. **Watertown, Wisconsin,**

QUEENS UNEXCELLED.

From Mr. Benton's best imported mothers, very low. Send for circular to 8tfdb **S. F. REED, N. Dorchester, N. H.**



Vol. XIV.

JULY 15, 1886.

No. 14.

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**RAGWEED, MAYWEED, SMARTWEED,
ET AL., VERSUS SWEET CLOVER.**

IS SWEET CLOVER A BAD WEED?

MR. C. FAUST, of Harvard, Ill., desires that I should give in GLEANINGS the facts in regard to the character of melilot, or sweet clover. He says in his region it has been planted largely along the roadsides, but it is being cut by the farmers, as they refuse to let it grow and seed, for fear it will become a serious pest in their meadows and cultivated fields. Mr. F. adds, that it is this beautiful plant with its rich product of superior honey, or else ragweed and mayweed, which he feels sure are important factors in the production of "hay fever." I have no knowledge in reference to the part ragweed and mayweed play in the production of hay fever; but I have raised sweet clover now every year at the college for several years, and I feel certain of the following points:

1. Sweet clover is a very excellent honey-plant;
2. It is very beautiful, both from its rich fine foliage and graceful sweet-scented blossoms. Surely ragweed, mayweed, smartweed, etc., bear no comparison to it as an adornment to the highway;
3. It is not bad to spread at this place. We rarely find it starting at any considerable distance from our beds; and when it does start in meadow or pasture it rarely holds on, being choked out by our cultivated grasses;
4. When once started it is no difficult matter at all to get rid of it. As is well known, this clover is a biennial, and grows from seed flowering the second year. Thus by cutting while in bloom, or before the seeds mature, we shall quickly extirpate it. It can not remain longer than two years

after such cutting, as it must come from seed every other year.

So I am free to urge the farmers of Illinois and other States to foster rather than destroy this plant. They will thus adorn the roadsides, and will also aid to foster and develop an important industry.

At this writing our beds of sweet clover—melilot (*melilotus alba*) are in full bloom, and it is hard to say which is more attractive to the bees—this or the basswoods, which are also in full bloom.

Agricultural College, Mich.

A. J. Cook.

Friend Cook, I agree with you exactly. Sweet clover has been on our grounds several years. In fact, we had half an acre at one time, and the seed was hardly ever gathered, and hence it came up so thickly it could not grow. For about one year it was a little troublesome. Since then it has entirely disappeared. None of it is found on our grounds at all, unless it is an occasional shoot that comes up among the strawberries and in such places. It is true, they are a little hard to pull; but after a soaking rain they will come up as well as docks, or other kinds of clover. Now, while it is true that it doesn't hold its own in cultivated fields, it is also true that sweet clover will grow in any kind of hard yellow clay right by the roadsides, or on barren hills. Dr. C. C. Miller, as you will remember, suggested as a reason for this (see page 41), that it seems to endure any kind of treatment or hard usage. On that account it gets a hold along the roadsides when it is not found elsewhere. Bee-keepers have been accused of sowing the seeds along the roadsides about Medina; but I don't think any bee-keeper would take

the pains to do so. It simply got a start along the roadsides, and has been following along year after year. I do not know that I ever saw a patch of it anywhere in cultivated fields, and I never knew it to do any hurt.

CANADA THISTLES.

Now, while I am on this subject I want to say that we have recently found a patch of real genuine Canada thistles on our grounds. They were first found close to the fence on the opposite side of the road from our county fair-ground; and the supposition is, that somebody unpacked some goods, or fed his horses some hay up against our fence, and this hay contained the thistle-seed. They are scattered for a rod along the road under the fence, and had got, perhaps, ten or twelve feet over into our field. The minute I found them I dug up every plant visible; but in ten days after, although we have not had a drop of rain, they are coming up as thick as spatter. Sometimes a new strong plant will be found fully six feet further out in the field than any other had been before. It looks as if it might make a power of trouble; but I rather like the fun of trying my hand on such a foe. Will some one who has had experience tell me how long it will live if I chop up the plants every ten days all summer long? The roots seem to run in the ground like moles; but the question is, How long will the roots live if they don't have a chance to make leaves?

MARKETING COMB HONEY.

HEDDON'S METHOD.

IN your foot-notes at the close of my article, page 512, on "Getting Bees out of Sections," you request me to follow up the sections to market, and I will gladly comply with that request; for my experience in the matter, together with conversation with commission men, has convinced me that it is a serious mistake to send honey to market in the same cases or crates it was stored in, on the hives.

On page 854 of GLEANINGS for 1885 is illustrated and described the shipping-crate of my own invention and choice. In this crate, friends Hutchinson and Taylor market their fine comb honey, and in it they have carried off the liberal premiums offered for best display of comb honey, by the Michigan State Agricultural Society, ever since it offered them. I might further state, that the honey was in $4\frac{1}{4} \times 7$ -to-the-foot, 4-piece, dovetailed, white-poplar sections, and stored in my non-separator case. Now, do you think any person could have successfully competed for these premiums by showing ever so nice comb honey in the same crates the bees built it?

Our honey-house is a large airy room, made and kept as neat and clean as a dwelling-house. From the screen-house, mentioned on page 542, 1886, we carry the storing-cases to the honey-house, piling them up crosswise, that the air may freely circulate through them. As soon as we need the cases, and spare time admits, we invert them on our honey-table, push out the sections in a minute, and, holding them over a box, with the point of a medium-sized blade of a pocket-knife we scrape all the glue from their edges and place them in the shipping-crate

above referred to. The glue being now quite cool, readily lets go the wood. With a little practice the apiarist will hold the blade between thumb and finger in such a manner as to rarely, if ever, mar a capping, and will do the work very quickly.

Once, in conversation with R. A. Burnett, of Chicago, who handles large quantities of comb honey, after telling him how much time it required to clean and crate the sections, he said that the difference in price and attractiveness would pay us enormous wages for the labor performed; one or two dollars per hour would be a low estimate, I think.

We now pile our crates up in the honey-house, keeping them there any length of time we desire, never having any trouble from worms, fermentation, nor granulation, if not kept all winter without fire. These little crates cost less, and look much more attractive, than storing-cases. As stated in my article on page 854, 1885, these small crates ship safer, and sell more readily. They also cost less than storing-cases. A dealer who has once handled honey in these crates will be loath to receive it in cases as it comes from the bees. For convenience, let us agree to call storing-cases *cases*, and shipping-crates, *crates*.

REVERSING.

I have been interested in reading Ernest's apiary reports on page 550 and 551. Yes, sir; he is right; reversing has come to stay. If he will experiment on a comprehensive scale with my all-wood reversing device he will like it, I think, much better than the Simplicity, shown in the cut. It is not attachable to old frames, I admit; but I feel sure it is much the best when constructing new ones. We have had considerable practice in reversing the whole hive at once; so has Mr. J. M. Shuck, of Des Moines, Ia., and I believe that neither of us have as yet observed any detrimental effect whatever from such reversal.

Referring to page 537, 1886, I would say to Mr. Ritter that we can not practice his modification of modern transferring, for our bees usually have brood in spring, before they fly; but we have several times performed it in autumn, after brooding had ceased, as mentioned by the editor in his foot-notes.

Referring to page 536, on "Preventing Increase," it is quite easy to see why Mr. Robbins failed of success, while Mr. Hutchinson, myself, and others, have never met with failure. JAMES HEDDON.

Dowagiac, Mich., July 5, 1886.

Thank you, friend H. You have given us just exactly what I wanted you to give; and even if some of the matter has been given us before, it comes now right connectedly, and in practical shape, and in just the season when we are ready to use it. I know something about the difference it makes in having the sections clean. Our boys on the wagon told us a short time ago that there were calls for honey, made this year. I remarked, that it would not make much difference whether it were new or old, but we would try to give them some just from the hives. The first lot we got hold of was nice, white, clear honey, but it was darkened by being left on the hive too long, and some of it was stored in sections that had been on the hives the year before. It did not sell a bit better than the old honey. Finally one of our progressive young men from a neighboring town brought in some new honey

in new white cases; in fact, the stuff for the cases hadn't been a week out of our saw-room, probably. The sections were so clean and white that one might suppose it hadn't been a week since they left the buzz-saw. He wanted 15 cts. a pound for it. I paid it, although I gave only 12 cts. for the former lot. Well, this clean nice bright comb honey is selling at a good rate for 18 cts. per lb. We just put the case right on the wagon, and the appearance of the honey sells it right along. I might add, there is not a bit of propolis visible anywhere. While I think of it, friend H., perhaps I should also add that neighbor Chase, the young man who brought us the honey, is using surplus-arrangements like or similar to those you used a year ago.

BORAGE AS A HONEY-PLANT.

A GOOD REPORT FROM IT.

I SHOULD like to say a few words in praise of what I think to be one of our best honey-plants; i. e., borage. I got enough seed from you last year to plant about $\frac{1}{2}$ acre, but sowed it rather late. However, the bees worked on it until late in November. I did not save the seed, but let it seed itself. It commenced to bloom about the 1st of May, and the bees (mostly blacks and hybrids) have been just *swarming* on it ever since, even during poplar and white clover. The remarkable part about borage is, the bees work on it after a heavy shower. The head of the flower, as you know, hangs down, and the rain does not wash out the honey. I wish to put in a large crop of it next season. We have had a great deal of rain here of late, and the bees are getting a very clear, sweet honey, very much like sugar and water. I send you a small sample. Can you tell me what it is? I have also noticed some of my honey capped over with yellow wax, as described by J. W. Porter, in June GLEANINGS, p. 480. Italians will utilize wax when they have access to it; and as I had left some fdn. in an old Palace hive, and saw them at work on it, I accounted for it in that way. Am I right?

R. R. CUYLER.

Rapid Ann, Va., June 27, 1886.

I am glad to get so good a report from our old friend borage. We have raised it a good many years, but we have such a very large number of bees working on a small plat of ground that it is difficult to tell how much honey the plant furnishes, or any thing about it. The sample of honey you send is very nice. I will explain to our readers, that it is just about right to drink. The flavor is a little different from any thing I have ever tasted in the way of honey, but I should call it fully equal to clover, so far as I can judge from any thing so much diluted. It is probably borage honey, just as it is gathered. During a very wet season I once had some clover and basswood honey almost as thin as this. It would run out of the combs when they were turned up in taking them out of the hives. If removed by the extractor in this condition it will quickly sour; but if left until the bees seal it up after their own fashion, it will be nice thick honey. I should be glad of more reports from borage. It is very easily raised, and, as you say, may be

put in quite late. It self-sows, so that, if the seed is not gathered, it may prove to be a troublesome weed; but not more so, however, than buckwheat or other similar plants.

EMPTY BROOD-NESTS.

NEW SWARMS—EXTRACTED HONEY.

YES, friend Root, I have tried working new swarms for extracted honey, and I see no difference in regard to whether the *brood-chamber* shall be furnished with combs or fdn., or the bees allowed to build their own *brood-combs*. You say: "Of course, this condition of affairs refers to comb honey. When one is working for extracted honey, by all means give them empty combs." Yes, I would give them empty combs, but *not* in the *brood-nest*. I would furnish the frames in the brood-chamber with starters of fdn., put on a queen-excluding honey-board, then a super filled with empty combs; or, if I had no combs, I would fill the frames in the super with fdn. The principle of allowing the bees to build the combs in the brood-chamber, and furnishing comb or fdn. in the supers, is a broad one, and it really makes no difference whether the honey in the super is to be extracted, or whether the combs of honey are removed in the shape of pound sections. Just stop and think a moment, friend R., and see if you can't "catch on."

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich., June, 1886.

I confess, friend H., I don't "catch on" exactly; but I begin to suspect that bees will store more honey if they are permitted to indulge their passion for comb-building to a certain extent than if they are given so many combs they have no room to build new combs at all. D. A. Jones says, "We are fully convinced that full frames where extracted honey is taken is a decided advantage."

HOW TO RAISE CELERY.

FRIEND A. T. COOK GIVES US A PLAN BY WHICH EVERY FAMILY WHO OWNS A PATCH OF POTATOES MAY RAISE CELERY.

THE potatoes, when plowed and well hilled up, will leave just the trench required for the celery-plants. Stir some fine fertilizer in the soil and set out the plants, six inches apart in the rows, pressing the soil firmly about the plants. Set every other row with celery, and this will leave abundance of room for earthing it up after the potatoes are removed.

After setting the plants, water well; and then with a rake draw the potato-tops over the rows of celery to shade them from the hot sun. After a couple of weeks turn the potato-tops back; and by the time the celery needs earthing up, the potatoes will be ready to dig; after which the celery may be plowed and hilled up in the usual manner. I raise celery in this way with half the time and trouble of any other plan. I am unable to see that either crop interferes at all with the other—indeed, the potatoes, as a shade for the young plants, are a great advantage.

FRIEND COOK'S METHOD OF REMOVING POTATO-BUGS.

It may not be out of place to tell my way of catch-

ing potato-bugs. I never use poison. I put a large bale, made of a barrel-hoop, on a common tin pan and then fasten a pasteboard, 8 or 10 inches wide, on one side of the pan, reaching half way around. This prevents the bugs from flying over when I brush them in. I use a brush made of broom corn, which does not injure the vines; and if bugs are plentiful I go over the vines every other day. A. T. Cook.
Clinton Hollow, N. Y.

"BEES AND BEE-KEEPING."

A REVIEW OF THE SAME BY PROF. COOK.

IT is only from lack of time that I have delayed reviewing this excellent work, the first half of which has now been in the hands of bee-keepers for some weeks. This part of the work is wholly scientific, and is very thorough and complete. I can hardly describe the interest and pleasure I have derived from its careful study. This is not lessened by the fact that its criticisms of my own work seem rather harsh. When I am wrong I am only too glad to be corrected; and if, in my intensely busy life, I have at times been too hasty or less careful than I ought to be, it may be well that I should receive even a sharp reminder. Of the six or seven points criticised, two were corrected before I saw this work; and if the other criticisms are found, upon examination, to be well grounded, as will very likely prove true, I shall certainly profit by them. As Mr. C. says, I drew largely from Hyatt's monograph. He has done the same, yet he does not even hint that I differed totally from Hyatt in the structure of the ligula and the process of taking nectar, or that I was first to give the description which he substantially follows. When I first read Mr. Cheshire's article on the cause of foul brood, and noted how he spoke of the German scientists who had discovered the cause of the malady, I wondered that so good a scientist could mar his work by such unkind references, especially as his own work is largely compilation, though he has given us much which is new. This latter, if correct, as it doubtless is, in the main, gives us great reason to thank him.

In this review I shall speak only of some of the most interesting points of the work, suggesting that, while it is rather technical in places, for the unscientific reader, no live bee-keeper can read and study it without great benefit.

Mr. Cheshire is a skillful microscopist, and it is in this field that he has done the principal, original work. It is generally known by scientists that larval bees, no less than the larvæ of other insects, shed their skins. The author shows just how and where these discarded garments are tucked away. I have found that these shreds of the rejected skins of bumble-bee larvæ are managed in similar fashion. It is stated that the cocoons extend but a short distance from the outer end of the cells, and that Huber was wrong in stating that those of queens were much less extensive than those of the other larvæ.

No part of the work is more interesting than that describing the glands of the mature bees. He calls attention to the three pairs of glands, two in the head and one in the thorax, which were pointed out by Siebold; also the flask-shaped gland at the base of the mandible, which is beautifully illustrated by Wolff in his admirable monograph. Mr. Chesh-

ire argues, and with no small show of reason, that one pair of these glands of the head secretes the most of the food of the larval workers, nearly all of that of the larval queens, and the most—all of the nitrogenous food of the queen. The fact that this gland is absent in the queen and drones surely gives strong support to the view, as does the fact that the gland seems more active in young than in old bees. It is argued, that the other glands are digestive in function, and probably serve to convert the cane sugar of nectar into the reduced sugar of honey. Here Mr. Cheshire makes a strange error, in the statement that our saliva is wholly a digestive liquid; that it changes starch into sugar. It is well established, that our saliva is almost wholly mechanical in its function, and that the pancreatic juice digests the starch; though I think we can hardly doubt Mr. Cheshire's proposition, that this secretion of bees is digestive in its action.

In commenting upon the fact that the queen is probably fed, when she is actively engaged in laying, upon the rich secretion which affects the rapid development of larval bees, it is estimated that the queen lays eggs to double her own weight each day. Surely, she needs good food, and to have it well prepared. Fancy a hen laying from twelve to twenty pounds of eggs a day! Is it possible that we may secure such fowls by taking hint from the bees, and preparing a rich diet already suited for assimilation? If so, we must remember that nature has been very slow in developing her marvels, and we must copy her and not hurry.

The description of the alimentary canal is very full, and as full of interest. The explanation of the stomach-mouth of Burmeister, and its valvular and separating functions, will be read with much interest. This method of separating pollen from honey shows how skillful nature is in her operations, and explains why honey has so much less pollen in it than does the nectar from which it is derived. It is shown that the intestine of bees serves as a gizzard; and the suggestion is made that the intestinal teeth serve the purpose to break or cut the still undigested pollen grains.

The part of the work treating of the mouth parts will be read with no small interest by the bee-keeper who loves science. Mr. Cheshire thinks the peculiar tongue-structure, which, if I mistake not, I was the first to correctly describe and illustrate (see fig. 22, Manual) serves the purpose of cleaning out pollen grains which may find lodgment in the central slitted rod, or plicated membrane, uniting edge of rod and edge of outer case. Thus the bee has no need of a toothpick, as the evolution of the tongue itself serves to clean it.

No part of this work will be studied more profitably than the description of the antennæ. The histology of these organs is well portrayed, both by words and figures. Mr. C. contends, with much show of reason, that these complicated and very useful organs serve not alone for touch, but also for hearing and smelling.

The legs are fully described and illustrated, and their complex and wonderful structure explained, as also the function of each part. It is suggested that the jaw-like arrangement between the basal tarsus and tibia serves as pincers to grasp and carry the wax scales from wax-basket to mouth. The claws and pulvilli are also described, and their purpose to hold on is correctly stated; but that this is new is certainly wide of the mark.

The structure of the sting, and the way it is used, is well given, and is substantially the same as given by Hyatt.

I have not space here to more than refer to the wonderful description of the spermatheca, and the manner in which eggs are impregnated, or passed unimpregnated, at the will of the queen.

This, with other parts of the work, show the author to be an expert with the microscope, which fact, combined with a skillful pencil, makes the treatise of great value.

The last part of the work, showing how useful bees are to plants, is most opportune just at this time. The author has selected wisely from Darwin's great work on this subject, and has given graphic examples of the value of bees to fruit-growers. The work is beautifully executed, and is certainly a great credit to its author, and a most valuable acquisition to bee-literature. It is to be regretted that its price is so great—\$5.00 for the entire work, \$2.50 for each volume—as this will keep it from the libraries of a great many who would otherwise secure it. Yet it is hard to see how it could cost less.

A. J. Cook.

Agricultural College, Mich., July, 1886.

Thanks, friend Cook, for your kind and deserved notice of this valuable work. I am pleased to see, also, how well you "stand fire," if I may be allowed the expression. So long as we are all human, and liable to err, especially when we try to search out the depths of natural history, why should we not have a very wide charity for each other? Of course, a good deal of the above is beyond my depth; but may I be excused for venturing to criticise both you and friend Cheshire on one point? You know it has often been said that a queen will lay eggs enough to equal her own weight in 24 hours; but it seems to me that this is surely a mistake, and I want to inquire if you have at the Agricultural College a pair of scales equal to the task of weighing a queen's egg, or, if you choose, 100 or 200 eggs. Suppose we grant that a queen may lay 3000 eggs in a day, will these eggs weigh any thing near as much as the queen herself, say at a time when she is not laying eggs? A great part of my life has been spent with small scales—those for weighing gold and silver. From the experience I have had I can not think that the above statement is correct. One of the poultry-journals a short time ago suggested that it was next to impossible for a common fowl to eat and digest food enough every day to produce an egg; that the way she managed it was to accumulate flesh before she commenced laying; and when this accumulation had disappeared she was obliged to take another rest. Well, there is a "biddy" down at our poultry-house that has laid an egg every day since last February; that is, if she has missed a day I have not noticed it. She was quite a small fowl when she commenced to lay, and I should say she had increased in size fully a third while she has been laying. So this upsets the point made in the poultry-journal. Perhaps I should add, however, that the eggs laid are remarkably small—so small they would hardly answer for market. The hen is a cross between Plymouth Rock and Leghorn. She was hatched so late in the fall

that she was probably stunted in growth during winter. She takes enough food to furnish material for an egg every day, and something more, which makes me look at her in amazement quite often. Now, then, can a queen, even with thousands of attendants using their digestive apparatus to help her along in her work of egg-producing (by giving food in the most concentrated and fully digested shape possible), produce eggs enough *in one day* to weigh as much as she does? It may be true, but I should like to see it proven. When it is I will take off my hat and make my best bow to a queen-bee, in token of the great wonders the inmates of a bee-hive are capable of performing.

GETTING BEES OUT OF SECTIONS.

THE WAY FRIEND DOOLITTLE MANAGES IT.

I NOTICED George A. Wright's question on page 393, regarding getting bees out of sections, and it would have been answered sooner, only for pressure of business. As I have very little time at my command I will tell, as briefly as possible, just how I manage; and as July is our great honey month here at the North, it will be in good time for all those whose surplus is obtained from basswood or fall flowers. All have noticed that the bees have passageways, or holes, in each of the four corners of nearly every section—so much so that these holes come as near being a matter of fact as any one thing connected with bee culture. Now, it will be seen that, in our plans of later years, these sections are so placed upon the hive that these holes in the corners make one straight hole right through from one side of our case, or clamp, of sections to the other, nearly or quite as straight as if bored with a $\frac{3}{8}$ auger. This, I think, I have made plain to all. Then all know that, if smoke is suddenly poured into a bee-hive without any jar or disturbing beforehand, the very first thing the bees will do is to run as far from the smoke as possible, inside the limits of the hive, without stopping for any thing. As soon as such limits are reached they will take their honey, for they will not leave the hive without taking a load of honey with them for a new start in life. Taking advantage of these two facts I carefully lift the cover to the hive, and just as carefully remove one of the little side boards from my section case, or clamp, of wide frames, blowing a little smoke upon the bees on the face side of the sections, and, as quickly as possible, hold the nozzle of the smoker to the first of those holes at the upper corner of the sections, beginning on either the right or left hand side as it comes handiest. I now give two puffs of smoke into that hole, working the smoker for all it is worth, so as to send a stream of smoke as deep into the sections as possible. Then the nozzle is placed at the next hole, and the next, and the next, in quick succession, till two puffs of smoke have been driven as far as possible into each hole. I now quickly take off the little board on the opposite side of the clamp, and as thoroughly drive the smoke to the heart of the section-case from the other side. Now I wait a moment, giving the bees the necessary time to flee from the smoke, when the sections are suddenly taken from the hive with scarcely a bee upon them, if I have done

the work as it should be done. Immediately after, a reaction will take place, especially where a small brood-chamber is used, and the bees come boiling up over the frames, and, if the sections are not off, up into the sections, when all the smoke we can use will not drive them so but that they will fill themselves. In this way I get off my sections free from bees, and never, as a rule, get holes gnawed through the capping of the cells as I used to before I learned how to do it. In times of scarcity of honey in the fields, the bees will sometimes stick to the lower portion of unsealed sections; but as these are not marketable, no especial harm is done. However, it is a rare case that all do not go out. The only secret there is to it is to know the right time to take off the sections; just that moment when all the bees are out, and before any return. A little practice will secure the reader that secret.

Borodino, N. Y., June, 1886. G. M. DOOLITTLE.

We have tried the same thing, friend D., but we did not all succeed as well as you state, on account of this same reaction; that is, after the bees had all gone out of the sections with a roar they came trooping back again before we got round to taking off the case of sections. With the suggestion you give us, however, I think now I can manage it; but we want our honey-crates so they will lift right up without any prying or snapping. Heddon's sink honey-board will probably help in this direction.

A BEE-SMOKER THAT USES NO FIRE.

OUR ENGLISH FRIENDS TAKING THE LEAD.

AMONG the advertisements in the *British Bee Journal* for June 24th we see advertised Webster's fumigator. The advertisement states that it entirely supersedes the smoker—no going out, as no fire is used; no tainting the honey. The agent used is carbolic acid, oil of tar, and water, properly mixed. The proprietor advertises a bottle of the mixture—enough to last two seasons—for 6 pence. He also says the instrument can be adjusted by any novice to any ordinary smoker-bellows. We judge from the advertisement that the agent is placed in a sponge. By means of a fumigator, the air is made to pass twice over the sponge, so as to be thoroughly impregnated. An arrangement is also used to prevent evaporation of the liquid when not in use. Our friends may remember that this subject has been discussed and experimented on before, although I believe none of us have thought of using carbolic acid. We ordered a fumigator and extra bottles of the agent, and will report in due time. We do not notice any thing in the reading-columns in regard to the invention, but it seems to me it promises to make a great revolution in the smoker-business. I, for one, protest against any patents, especially among our American friends. Let each one experiment freely as much as he chooses. Among the testimonials we do not find the names of any we know, except Frank Cheshire, and from him only this brief note:

I find, by experiment, that the most vicious of Eastern bees are utterly beaten at once.

WHY DID THE QUEEN MENTIONED ON P. 485 STOP LAYING?

A CORRECTION.

ON page 485 David Strang asks, "Why did the queen suddenly stop laying?" I do not think she had ever begun. He says, "I released her from a cell partly destroyed by a rival, and introduced her to an artificial colony, formed about 12 hours before, of frames and bees from three or four colonies. She was accepted, and a week later had nearly four frames full of eggs and young brood," etc. Then four days later, not an egg or an unsealed larva could be found in the hive. In the first place, a queen will never, as far as I have observed, have 4 frames filled with either eggs or larvae in seven days from the time she is hatched. I have raised a great many queens, and I never had one mated in less than five days after hatching, and it is generally seven or eight; then it is from three to five days after they mate before they begin to lay.

The eggs and larvae that he found in the hive were probably in the combs when he put them in the hive. The reason that the eggs had not hatched into larvae was because, it being a made-up colony, the old bees had all gone back, leaving only the young bees, and there was not sufficient heat to hatch the eggs that were not under the cluster. The reason he did not find them later was, that they had sealed over what brood had hatched, and eaten up or carried out the eggs that would not hatch.

THE SCARCITY OF CLOVER IN BOURBON COUNTY, KANSAS.

Bees are doing better here this season than I ever knew them to do in this part of Kansas. There is no white clover here. I do not think all the white clover in this county would make a good stand on a half-acre; but I have three or four acres of alsike sown this spring, and it looks well; but there seems to be a good natural supply of honey. From 18 stands in the spring I have extracted 640 lbs., and increased by natural swarming and dividing to 30, and the best part of the honey season is to come yet. There are a great many bees kept in this part of the State, but nearly all in box hives.

A FEW OLD FOGIES STILL LEFT.

I went to see a man last week who has 45 stands in boxes. He says he doesn't want any new-fangled patent gums. I told him there was no patent on them, but that didn't make any difference. He wouldn't give his old box gums for all the patent hives that ever were made; and when he wants honey he takes his sulphur-pot and kills the bees and destroys the brood and combs; but he is wise in his own conceit, and I could not tell him any thing. He was an old man, and had kept bees for over fifty years, and knew all about them.

JOSEPH C. BALCH.

Bronson, Bourbon Co., Kansas, June 26, 1886.

Friend B., I think you are right, and I beg pardon for having omitted to note that friend Strang, in his statement, said it was only a week after the queen was hatched that she had her frames full of eggs and young brood. I have frequently noticed that the eggs would remain in the combs several days, where, for some reason or other, bees did not nurse them nor care for them.

DO QUEENS WITH CLIPPED WINGS
FLY?

HOW MUCH OF THE WING SHOULD BE CLIPPED?

I HAVE been reading GLEANINGS since April 1st, and some sample copies before that, but I am not familiar with what has and what has not been discussed in the past years; therefore if I tread over ground which has been trodden before, you will please excuse me.

Some time before swarming time, my brother and I went over our bees and clipped the wings of all the queens which had not been clipped before that, so we thought we need not be afraid of any swarms getting away. My brother George and I are partners in the bee-business, while my brother John has a few colonies independent of ours. A few days ago we were all three in the apiary, cutting the queen-cells out from a colony which had cast a swarm, so there would be no after-swarms. Suddenly John exclaimed, "There they go!" I looked around and saw a swarm issuing from a colony which had a clipped queen. I went to the hive, took off the cover, and picked up a queen cage which I had placed on the enameled cloth some time before, and commenced looking for the queen, in front of the hive. We all three looked for awhile; and when we could not see her we proceeded to look inside of the hive. But we looked in vain. By this time the bees had settled on a peach-tree some fifty or sixty feet away, and seemed very well contented.

"Well," said I to my brothers, "the way those bees sit there, they must have a queen with them; so I think we had better cut the limb and carry them to the hive, instead of putting them in a new hive on the old stand," as we had been practicing. I was somewhat puzzled at their capers, as I knew the queen's wings were clipped, and I also knew they could not have raised a young one, as I had been examining them quite often. We thought the queen might have got lost in the grass, so, after putting three frames of brood in the hive, one containing a sealed queen-cell from our choice queen, and filling the rest of the hive with empty frames, and closing it, we shook the bees in front of the hive, when they marched in very much as if they had a queen, and in a short time they were at work.

When looking in the hive the next day we found the queen-cell torn down. "Well," said I, "queens with clipped wings can surely fly." We did not see her then; but a few days later we found eggs, and after looking for her awhile we saw the old lady, evidently very well satisfied with her new home. Her wings were clipped, but not short enough. Now this, I suppose, is known to all veterans, and therefore may not be interesting for them to read; but there may be more young apiarists, like myself, who would suppose that a small portion of the wings clipped off is sufficient. To those, I would say, if you don't want your queens to fly, clip off nearly or quite half. Had we waited for the bees to return, thinking that the queen was lost in the grass, I think we should have been badly disappointed about the time the scouts returned. If the bees had no queen, would they have remained in the hive with the brood and queen-cell? S. E. MILLER.

Bluffton, Montgomery Co., Mo., June 18, 1886.

I think, friend M., if you will clip one wing it will do more to prevent the queen from flying than if you clip both; but instead of cutting the wing square off, run

the scissors so as to take the thin gauzy portion, and leave the hard rib. It seems to hurt the queen more to cut this hard rib than to cut the web part; and this thin gauzy web is the part that does the flying. Of course, she can flop her drum-sticks to her heart's content; but so long as it does not help her to get up in the air, we have no objections.—Bees will remain contentedly without a queen, providing they have unsealed larvæ; otherwise they will generally desert.

BEE BOTANY,

OR, HONEY-PLANTS TO BE NAMED.

LIPPIA LYCIOIDES.

BY this mail I send you specimens, for naming, of a shrub which is probably the most valuable bee-plant in this portion of the State; height, 6 to 10 feet; delicate white flowers in spikes; highly aromatic; blooms from April till July, if seasonable, and after each heavy rain until the hard frosts in December. In fact, under favorable circumstances it is a perpetual bloomer. It is quite plentiful in this locality, and I am told that in some places it predominates. The honey is very excellent and abundant; but as it comes at the same time of mesquite, mint, and other flowers, it is difficult to keep the honey separate.

San Antonio, Tex.

T. F. MCCAMANT.

Prof. Devol replies as follows:

The plant is *Lippia lycioides*, Gray, a member of the Verbena family. It is not described in the textbooks of botany, but may be found in Gray's Synoptical Flora of N. America, Vol. 2, p. 338.

Columbus, O., June 7, 1886.

W. S. DEVOL.

ANDROMEDA.

I send a few specimens of what is here called sugar plant, full of honey, but too deep for common bees to reach. Can Italians use it? It is plentiful hereabouts.

W. V. SPENCER.

Prof. Devol says of it:

The plant from W. V. Spencer appears to be *Andromeda nitida*, Barto. I know no common name for it. It is a beautiful shrub, common in the low pine barrens of the Southern States. Some of the species of *Andromeda* are poisonous to sheep when eaten; but whether this one is, I can not say.

W. S. DEVOL.

CHINQUAPIN.

I send you a sample of what we call chinquapin. It is a great honey-plant. Please let us know its name.

C. C. KIRKMAN.

Coxville, Pitt Co., N. C., May 29, 1883.

Prof. Devol says:

The inclosed plant is chinquapin (*Castanea pumila*, Michx.).

W. S. DEVOL.

SWEET CICELY.

Seeing in GLEANINGS that you give the name of herbs and plants, I send one to name. I send you some of the stalk, leaves, and roots. W. W. GIGER.

Heltonville, Lawrence Co., Ind., June 9, 1886.

Prof. Cook's reply:

This is sweet cicely (*Osmorrhiza longistylis*). The name, from the Greek, means "scented root." The root not only smells sweet, but tastes not unpleasant. It belongs to the Umbellifera, or Parsley family. While the plants of this family secrete nectar, I do

not think they possess any special excellence as honey-plants. This sweet cicely is common, north. Agricultural College, Mich. A. J. COOK.

THE WORST BEES I EVER SAW.

ARE THEY CYPRIANS?

TO DAY I had business inside a certain hive of bees that sits over there under that old mulberry, you know; and as I was lifting off the cover, not another provocation, mind you, said bees came in such "a rolling out, tumbling out, any way to get out," style from the entrance, that I was for a time dumfounded. In a very short time I considered it not only my bounden duty, but to my best interests, to remove hastily from the situation; nor did I stand upon the order of my going. They covered me from head to foot, stinging my clothing all the while, nor could I get them removed till I had passed through four rooms; and through these rooms they sounded like bees swarming. On account of a good veil I received only three stings, and those upon my arms. I verily believe I should have been stung to death had I not worn a veil. I have as gentle bees as anybody else; but I wear a veil in handling queen-rearing colonies and in some other work.

Now, the above queen I know not where I got her; but I never suspected having such vindictive bees in my yard till this attack—a new queen whose second batch of progeny has just begun to work. In many ways they are the most remarkable bees I ever saw. The queen keeps *ten frames full of brood*, and I mean ten frames filled clear out—a most beautiful bee, large, and they work in and out with a rush, when my best pure Italians and Carniolans are plodding along, waiting for "something to turn up."

Now, I have "removed" this queen, and am introducing another, as I want no such bees. Who wants her for 35 cents? Bees are two and three banded. Don't say they are *hybrids*, for I have *them*, and never saw any to half equal these. Oh, yes! my wife says, "Don't forget to tell GLEANINGS about those bees stinging the chickens." Three or four little chicks are wabbling around from being stung by them.

JOHN C. CAPEHART.

St. Albans, W. Va., June 26, 1886.

HOW FALSE REPORTS OF HONEY AND OTHER THINGS GAIN CREDENCE.

THE SUPERSTITION OF THE CHINESE.

DEAR FRIEND ROOT:—Reading in GLEANINGS recently the remark in regard to the alleged manufacture of spurious honey, that, "in view of the wonderful achievements of science it is no wonder that men believe that the nicest comb honey can be imitated," awakens a sympathetic feeling in my mind. The Chinese, when once they begin to get acquainted with our Western inventions, soon get clear beyond their depth, and don't know what to believe and what not to believe. I once saw a blind woman who had come two days' journey, where traveling was very expensive, to have the foreign doctor insert a pair of dog's eyes in her head. She heard that he could; and why not as well believe that as to believe that he could send a message through a hundred miles of iron wire?

There is one thing which has given us a good deal

of annoyance at Shau-wu, our interior station. Not being ready to credit us with the benevolence which we profess, the Chinese must invent some theory to account for our readiness to come so far and spend so much money. Now, this old nation of China has passed through many revolutions and commotions, and so, from time to time, rich men have buried their treasures in the earth, and many of these have never been recovered. The theory commonly held among the people at Shau-wu is, that we have come to search for treasure. Somehow the story has been started that we can see three or four feet into the ground; and as we go about preaching and bookselling they claim that we go about peering into the ground for treasure. Once I was sitting on a ferry-boat watching the little fishes sport in the water while I waited for the boat to cross the river. A man eyed me curiously for a while and then asked of my Chinese helper, "What, can he see into the water? I have heard it said that foreigners can not see into water, but can see into the ground, just as we can not see into the ground but can see into the water." You see, they have the idea that we are opposite to them in most things, and they don't know how far to carry it. So far as concerns any superior skill we may possess, the unwillingness of human nature to acknowledge inferiority acts as a check on exaggerated notions of our powers; but when it comes to those things wherein we differ from them, they rather like to exaggerate, and make themselves believe that we depart in strange and unnatural ways from the true type of humanity, of which they, of course, are the grand embodiment.

One thing in regard to which they are strenuous, and think themselves better than other races, is the proper seclusion and subordination of women. The Christian treatment of women is something which they fail to comprehend. They seem to regard it as a part of the curious tendency to invert every thing which they think characterizes the "outside" nations, and so men must be subordinate to women with us.

To-day I sat chatting with a crowd in a shop opposite one of our chapels, where the gospel has been preached regularly for many years. One of them said to me, "With you the women control every thing, do they not?" I replied, "No: with us, husband and wife consult together on all their affairs. The husband is the stronger, and if he choose to impose on his wife she would have to bear it. But we consider it disgraceful for the strong to impose on the weak; and a man who ill treats his wife would be ashamed to show his face."

Another man inquired, "With you the women 'seek' the men and 'call' them to be their husbands, do they not?" I answered, "No, indeed. With us it would be thought disgraceful for a woman to seek a man in marriage."

Seldom do I converse with a crowd of Chinese but that I have to answer these questions; and all this in or near the city of Foochow, where missionaries have lived and toiled for forty years.

At our Shau-wu station we were troubled for a time with a worse slander. In the beginning of our work there it was reported that we bought children, and even sometimes women, and killed them, and made them up into medicine. The Chinese think that strength and vigor can be imparted by eating the bones, vitals, etc., of strong animals. The carcass of a full-grown tiger will sell for a hundred

dollars or more; and I have seen men peddling tigers' skeletons at so much per ounce, for a tonic. But these, while very good, would not be equal, they think, to the human article, if any one cared or dared to prepare it. I have heard of Chinese soldiers even forcing themselves to eat the liver of an enemy killed in battle, to increase their courage, for they think the liver is the seat of courage.

A distinguished Chinese statesman and general who died last year is said to have lost a son in the following manner: This son had a piece of flesh cut from his arm to make a tonic for his mother, and bled to death in consequence; so there were those who affirmed that the peculiar potency of our foreign medicines is due to the use of human vitals in their preparation. This scandal, however, did not gain sufficient currency to make us serious trouble. There were a few Foochow women in the neighborhood, of bold manner, who came to see the foreign women, and brought numbers of the more timid women with them; and they were always shown all over the house, up stairs and down. By and by the wife of a beloved native helper, who had grown worse as her husband had grown better, had to be divorced. Her relatives made a big row about it; but it gave the finishing stroke to the medicine slander. It showed, also, that the wife of a Christian could not sin against her husband with the same impunity that a Chinaman could sin against his wife.

The truth slowly gains ground. The Chinese have long admitted that Western nations excel in the mechanical arts, but they have comforted themselves with the belief that they themselves excelled in manners and morals. Now the painful, humbling idea begins to press them that the followers of Christ excel in these things also; and their boasted Confucius must yield to a GREATER ONE. We try to make them understand that Jesus is not a Western sage, but the divine Savior from heaven who does for us what no sage can do; and that we are come hither, not to humiliate them, but to save them.

Foochow, China, May 4, 1886. J. E. WALKER.

CLIPPING QUEENS' WINGS 1900 YEARS AGO.

A TASTE OF VIRGIL.

I HAVE been clipping my queens' wings to control swarming. I got the idea from your A B C book, and, with some few draw-backs, it is good. I think I clipped the wings of some old queens, and they died off and left the swarm queenless. But what bothers me is, that you beesmen began the habit only of late years, since the improved frame hives have been in use; and I find, on reading Book IV. of the Georgics of Virgil, that the Italians used to clip their queen-bees' wings for the safe-keeping of a restless swarm. I quote a translation of his original Latin, from the 103d to the 108th verse, inclusive;

"But when the roving swarms fly about and sport in the air, disdain their hives, and leave their habitations cold, you will restrain their unsettled minds from their vain play; nor is there great difficulty in restraining them; do you but clip the wings of their kings (*"tu regibus alas eripe"*), not one will dare, while they (their kings) stay behind, to fly aloft, or pluck up the standard from the camp."

How did they, in his day, 1900 years ago, get at the

queens to clip their wings, unless they had movable frames?

I feel compensated in thinking over the fact that he knew all that before we did, only in the other fact that the old poet did not know they were *queens* and not *kings*.

JAMES J. SLADE.

Columbus, Ga., June 18, 1886.

If I render correctly from the Latin which you quote, Virgil does not recommend to *clip* the king's wings, but to *tear* the wings from off the king. The Latin word "*eripio*," of which "*eripe*" is the imperative, never means, so far as I can ascertain, to clip or cut, etc. However, the rendering which you give probably best conveys the idea to bee-keepers of the present day. At any rate, Virgil recognized the fact 1900 years ago, that crippling the queens' wings prevented, to a large extent, swarms leaving altogether. I think that Virgil meant that the bee-keepers of his day should catch the queen in the cluster after her bees had swarmed. This, then, would not necessarily imply that the Romans had movable-frame hives.—Many thanks for calling our attention to this matter of bee-history. Perhaps friend Hasty can give us another dish of Virgil upon this matter.

ERNEST.

THE TENT FOR CATCHING SWARMS.

HOW MRS. AXTELL MANAGES.

DEAR FRIEND ROOT:—I want to tell your readers, especially the ladies who don't like to and can't well climb trees for bees, what a nice and convenient arrangement a mosquito-bar tent (referred to before in GLEANINGS) is to bring back virgin swarms—even the mosquito bar without the frame, as I have but one frame, and I use several cloths, or, rather, several tent-covers.

When bees begin to swarm, even if half are out, I set the tent over the hive; and if the bees are half out, the remaining ones make such a roaring that it calls those on the wing back every time. When all are out the hive that care to come, I lift the tent off to one side and open the hive; cut out cells in brood, etc. The bees outside of the tent and on the wing swoop down on to the combs. When the hive is closed I take off the netting by turning it wrong side out, as many of the bees stick to the cloth, and I shake them in front of the hive, and then the work is done.

If swarms from hives having clipped queens start to issue, and I have a swarm on the wing, I throw a tent or tent-cover over the hive, and kneel down close to the netting and look through and catch the queen and cage her, letting the swarm come and cluster on the tent-bars or to the projecting ends of the cover of the hive.

I have always very much dreaded my virgin swarms, as I take nearly the whole care of one apiary, numbering now 95 strong colonies and about 20 nuclei and weaker ones, and Mr. Axtell has the care of the apiary located near the timber, 4 miles away. I feel very thankful for the tent arrangement to catch the virgin swarms. I could not handle bees successfully, I fear, except the queens' wings were clipped, though I feel confident we sometimes lose a queen by doing so. One of those queens you sent was a beauty, and was successfully

introduced on to hatching brood by brushing the bees down in front of hive and letting all old ones return. I left her caged over night, and released her on the brood. In a week I found the hive full of eggs, and a nice little colony. I clipped her wing. The bees had become old enough by this time to show their black spunk, and scamper like a flock of sheep. I then concluded I would never again choose black brood and bees for a choice queen, but my gentlest Italians. We had a few colonies that were very dark hybrids, and I wanted to get rid of them on account of being so hard to handle, and so poor honey-gatherers poor years, but they do make most beautiful honey, and carry it above, leaving the brood-nest for the queen. For those two traits I like them better than Italians in good years, as the present has been so far; but we have had no rain for some time, or but little, and the honey harvest may close early. Some colonies have given in from 50 to 100 lbs.

The Heddon slatted honey-board is a splendid arrangement to keep the sections clean; we use it both above and below the rack with a cloth over it above the rack, if the cover does not fit down closely.

MRS. L. C. AXTELL.

Roseville, Ill., June 23, 1886.

HOW SHALL I MAKE MY BEES WORK IN THE SECTIONS?

A SPEEDY WAY OF GETTING RID OF THE FALSE IDEA THAT HONEY IS ADULTERATED.

I HAVE two colonies I wintered over. They came through in good shape. Each have 10 frames full (L. hive), from bottom to top with brood and honey, and the hive is almost full of bees. I have caps on with two crates each, holding 14 lbs. The bees will not go up and work in them. What is the cause? They seem to be busy on white clover and basswood, and there is an abundance of both. I put some half-filled sections in caps, which I had left over from last year. I thought perhaps it would induce them to commence in the caps. I looked next day and the cap was full of bees. I thought I should soon have two crates full of nice white honey. I looked again, four or five days afterward, and, to my surprise, I found no bees. On examination I found no honey in the section I put in. They had carried it all below, and have done nothing of any account since.

The basswood is now just in its full bloom, and white clover has begun to dry up. If they do not fill the caps pretty soon I shall not get any honey this season. How can I put them at work in the caps?

WHEN IS THE BEST TIME TO MOVE BEES?

I bought four first swarms. They came off the 21st, 22d, and 26th of May. They have filled ten frames full. I never saw bees build up faster in my life; but when they got up to the caps they stopped; nevertheless, they seem to be working very hard.

I commenced last season with three hives. I let a man have them to keep on shares. I will move them home this fall or winter. When is the best time to move them? If I move them before they go into winter quarters, will they go back to the old stand? I have to move them about an eighth of a mile. When I go to pack them up for winter, and

it comes a warm spell so they fly, won't they go right back to their summer stand?

THE EFFECT OF THE FALSE STATEMENTS, AND WHAT TO DO.

I was talking with one of our leading merchants the other day in regard to the honey market. Said he, "I sold many a pound of honey for 50 cts. years ago." I asked him why it was he could not sell it now for half the former price.

"Oh! this *patent* honey has ruined the honey-trade."

"Patent honey?" said I.

"Yes," said he; "why, just up here at a little town between here and Indianapolis they are making nice comb honey. They make the comb by machinery, and then fill it with this patent honey, and cap it up and sell it for pure honey."

I asked him if he knew that to be a fact. He said, "Yes, sir; I see no reason to doubt it; Mr. B. told me so."

Now, Mr. Root, I made him this proposition: If he would show me the factory that made this patent comb honey, as he said they did, I would give him \$100; and on top of that I would give him \$100 for every pound they had on hand. He said he thought I would find it pretty expensive. I told him I would do just as I said. Do you believe I am safe? I agree with him in one respect; that is, the patent honey has helped to reduce the price of our product. There are people who would buy our honey if it were not for that notion of patent honey. I believe when we get that out of the way we can sell our honey at a better price, and find a more ready sale for it. What say you?

J. M. TUCKER.

Clinton Falls, Ind., June 26, 1886.

Friend T., I feel quite certain that the reason why your bees do not go up into the surplus-receptacles is because the honey-yield is closing. With one or two sections containing combs partly built out last season, placed among the empty ones, they will be almost certain to go up if honey enough is coming in to make it advisable. The fact that bees have been once up in the sections in a cluster is evidence that they have started to work; and on account of cool nights, or a lack of honey, they have given it up.—It is quite a difficult matter to move your bees an eighth of a mile, unless you do it in the winter time, after, say, a lapse of two or three weeks of weather unsuitable for them to fly. They will go right back, as you say, if moved during the working season.—Sensational stories about spurious comb honey are, I believe, pretty much at an end. The low price at which honey is going to sell this season will have much to do in the way of discouraging such talk.

CONTINUOUS SWARMING FOR FOURTEEN DAYS.

A SWARM SCOOTs FOR THE WOODS, WITHOUT ALIGHTING.

MY bees kept swarming out every day for fourteen days; then it rained, and the weather cooled down and so did the bees. We had been having very hot and very dry weather for a month. After I had written to you about my "crazy bees" I went out and gathered up all the loose boards I could find, and

put them on the hives to shade them; and when I ran out of boards I used a few chicken-coops that had a blind side to them. Then it came to me that Mr. Heddon used shade-boards on his hives, and I thought most likely he had a patent on them, and would sue me, and put me in the penitentiary for imitating them. But the shading did not seem to do any good. As fast as the other swarms (after the first six) came out I carried them to the deep shade of the European larches and gave them plenty of air, and they behaved. One of the bad six

WENT TO THE WOODS WITHOUT ALIGHTING, Leaving the queen under the goblet. You ask why I did not divide the swarms. I answer, "Because that is not my method." I don't like bees; I keep them for the money that is in them, and I won't have a lot of semi-good colonies sitting around, nursing young bees that I care nothing for when the white-clover season is over. My bees have got to be booming colonies, and do business worth while, or I won't keep them at all.

Ernest says, on page 501, that it is because the child is unconscious of danger that it does not get stung, and that nervous people are apt to get stung, or words to that effect. Yesterday, when I opened a hive from which a swarm had just issued, to take out a frame of brood, two bees flew up and stung me, one on the eye, the other on the jugular vein. I thought I could get used to doing without a bee-hat and smoker. I had on a sun-bonnet, and I shut the fronts of it together, and walked to the kitchen, with dozens of angry bees flying around me, fired up the smoker, and made those bees dance. I smoked them for all that smoker is worth, and not another bee stung me. My arms were bare to the elbows, and *I was mad*. I am now going to treat my bees just as I used to treat "Jenny" the mule—always keep the upper hand—no patting, no favors.

I do not like those crates with glass in the side that I got of you. I do not like the closed-top sections; it makes the bees uncomfortably warm. I want crates that I can tier up five deep. I like Mr. Foster's section, with openings on every side. That is, I like the idea, and I am going to try them when I buy again.

MAHALA B. CHADDOCK.

Vermont, Ill., June 19, 1886.

I am glad to know, Mrs. C., that you like the open-top sections. I presume the reason why so many object to them is because of the trouble of closing the openings. The closed-top sections, I presume you know, are already closed. I suppose the latter are more convenient for a colony that is not strong enough to need tiering up.—Haven't you got some hybrids among your bees, my good friend? and isn't this why they are so cross?

ANOTHER GOOD REPORT FROM AL-SIKE CLOVER.

WHAT FIVE ACRES WILL DO.

FRIEND ROOT:—We have just had a good chance to test the merits of alsike clover, and it has done nobly. Our 5 acres, sown last season, for the past 5 weeks has been roaring with bees, and they are still working on it to some extent. The month of June, in the past five seasons, has been our discontent, and the hardest on bees of any month in the year—no white clover, no basswood, the spring bloom all

gone, fighting and robbing all through the month. Alsike bridges a very bad place, besides the hay and pasturage we get from it. Nearly 100 colonies had access to our alsike, and our own 30 colonies increased to 46 by natural swarming. From one colony that did not swarm, we extracted a common water-pail full. Several others nearly finished their sections. All first swarms, and some after-swarms, have the hives full of brood and honey—not a swarm lost by absconding; gave all a frame of brood. The only swarm that tried to leave was a rousing big first swarm. It came right out of the hive, and, without clustering, "lit out." I followed them a mile and a half, waded a creek, climbed a tree, got 'em into the light swarming-box I happened to have when they "lit out;" brought them back, and they are now all right. Don't say it wasn't a first swarm, for it was, sure. Hurrah for alsike!

M. F. TATMAN.

Rossville, Kansas, June 29, 1886.

HOW LATE SHALL WE KEEP WINTER PACKING ON THE HIVES?

MAKING CHAFF CUSHIONS FROM EMPTY PHOSPHATE-SACKS.

IN GLEANINGS for June 15, Mr. W. Z. Hutchinson speaks of the good effect of keeping bees packed on their summer stands till warm weather. Here, where we winter on summer stands, every farmer uses more or less bone meal, bone phosphate, or other fertilizers, and the empty bags of strong burlap are washed, and, before cold weather, wheat chaff, say one-half bushel, is put in, and it is spread evenly and closely over the top of the quilt for winter. They are easily removed for examination, and a use of these for years has proved very satisfactory. They are left on till I get ready to put on cases, and the protection is a decided advantage during the cold nights and wet days of spring.

One season I tried the experiment of packing hives with chaff all around the hive, and left them so packed during the summer, with a free entrance. They performed no better and no worse than others not protected, excepting top chaff packing.

One of the objections formerly raised by me to friend Heddon's "innovations" of thin sides for hives and cases, with no other joints than a planed surface gives, was the exposure to sudden changes of temperature. We know a high degree of heat is essential to comb-building; and we also know that, if that heat has to be supplied as it is by the consumption of honey, that it pays us to economize in the costly fuel, and protect, to save the waste.

It is to be hoped that experimental work this season will determine the value of the narrow L. hive.

If, as is now claimed, the contraction of brood-chamber to five or six frames during the honey-flow will prevent the accumulation of pollen, it will be a boon to many who are over-burdened with its accumulation in the brood-chamber. But here, when at times we have sheets of comb two-thirds filled with pollen, it disappears rapidly in the spring, to be replaced later by new pollen.

This shows its importance in the internal economy of the bee-hive. But at times it is a nuisance, and valuable brood-space is sure to be preoccupied, if, from any cause, the queen is not fecund and active.

The yellow capping mentioned in my last is evidently a trait peculiar to some bees. I am marking for a change of queens and stock, all that show it.

Our season is wet, and for the last two weeks we have had a decided improvement in the honey-production, and bees are booming. J. W. PORTER.

Charlottesville, Va., June 28, 1886.

Friend P., your suggestion is a valuable one. The phosphate-sacks are of exactly the right material, and they come so near being the right size I do not know why they will not answer about as well as any thing we can make. Our experiments of late have all indicated that it pays, and pays well, to protect the hive from both heat and cold while the bees are building combs and storing honey in sections.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

THE QUEEN THAT STOPPED LAYING.

THAT queen mentioned in my letter—page 485—commenced laying all right within three days after that letter was written. My guess now, and it is only a guess, is, that she had previously laid drone-eggs exclusively; and the little colony, having no use for that kind of increase, had destroyed the larvæ.

You have done a special favor to me, and probably to others, by telling your experience with Carniolans, though it is rather disappointing.

THE HONEY-JUMBLES.

Will you now please publish a recipe for making those honey-jumbles mentioned on page 460? It might be useful to families who do not live within range of your wagon. DAVID STRANG.

Lincoln, Tenn., June 21, 1886.

In regard to the recipe for making honey-jumbles, we have written to the manufacturers, and below is their reply:

We should not like to sell a recipe for our honey goods, as it would likely get into the hands of other bakers to our injury, as we pride ourselves particularly on the superior quality of our honeys. The recipe would be of little or no benefit to families, or any one working without machinery.

CRAWFORD & TAYLOR.

Mansfield, Ohio, June 29, 1886.

Now, although it seems to be true that jumbles exactly as good as those we sell can not be made in families, no doubt our women-folks, by a little experimenting, could make something near it. Another thing, if they are home-made they might be given to the children hot. I have always been a great admirer of hot cakes and cookies when they are first tumbled out of the oven. It seems to me they are nicer than they ever are again afterward. After the friends have tested ours, and have tried their skill in making something like them, we will gladly publish recipes for making honey-jumbles. We can send four by mail, for samples, in a pasteboard box, for 10 cents.

A FEW QUERIES; ALLEY TRAP, HONEY-DEW, ETC.

Bees are booming on clover and honey-dew, which is the first I have seen here for 12 years. It is very plentiful some days, but we had a good rain

to-day which will perhaps put an end to it. If you will answer the following questions in GLEANINGS it will greatly oblige me, and possibly many others. How can we tell honey-dew honey from other honey? Have you yet captured any queens in the Alley trap, and hived your swarm without climbing and cutting it down? In other words, does the trap pay? is it a success in hiving? In regard to the Alley queen-nursery, can we raise queens with them by cutting out any extra queen-cells we do not need in other hives, and placing them in the nursery and keeping them in the center of any good hive? If so, how long can they be kept in the nursery? and how about fertilizing them? Now, I have 50 hives. I want to keep from 60 to 80 swarms, but always find five or six hives queenless every spring. Will it pay to try to raise and keep a few queens on hand, or is it best to put new swarms in these queenless hives?

W. H. RITTER.

North Springfield, Mo., June 16, 1886.

Honey-dew can be detected in sealed combs by a dark shade of color which it presents under the cappings. By holding the section or frame of capped honey between you and the light, the difference in color between the honey-dew honey and the clover or basswood is so great the bad portions may be cut out with a knife; the rest can then be used for table use. Even a single cell can be detected in this way. Other dark honey may present a similar appearance, but the surest test is the taste. If you once get a drop of the pure stuff on your tongue you will never forget its sickening flavor.—The Alley trap has been used very successfully by us. See department of Our Own Apiary of last issue, and also page 461, current volume.—If I am correct, Mr. Alley designed his queen-nursery for the very purpose of keeping extra queen-cells. See page 23 of his book on queen-rearing. After the queens are hatched they are to be given a queenless colony, which we do by simply letting them run in on the frames. The queen will then be fertilized in the ordinary manner, if she be accepted by the bees, which she is, in the majority of cases, with us. We use, however, and prefer, the lamp-nursery described in our catalogue, for hatching young queens, to the one used by Mr. Alley.—You could probably raise your own queens if you have a good queen to breed from. You will find your questions more fully answered in the A B C book.

THE DANGER OF LEAVING QUEEN-CELLS IN A COLONY WHERE A QUEEN HAS JUST BEEN INTRODUCED.

A most peculiar misfortune has happened to me in regard to a queen I bought of you, as follows: June 9th I received an untested queen from you, which I immediately introduced to a colony I sold a few days before to a friend. The colony having swarmed before this time, I cut all the cells out and put a piece of larva in. On Sunday, June 13, I looked in and found the queen all right; but on the larva they had started some queen cells which I supposed the new queen would destroy, and so I did not touch them, but put on the upper story, supposing every thing was all right. This morning, the 22d, I found the queen dead before the entrance. On looking in I found that your queen had filled sever-

al frames with eggs, some frames having brood ready to seal. On looking further I found a *hatched* queen-cell on the piece of larva, and also a small unfertilized black queen which would have come out only yesterday. Does this happen often? and why does the queen not tear down cells? I found the other queen I bought of you doing so. As this hive belongs to a friend who does not know much about bees, he might accuse me of knowing nothing of bees, and say it was my fault.

G. WIEDERHOLD, 11-12.

Yonkers, N. Y., June 22, 1886.

Friend W., as a rule the introduced queen will destroy the cells, but there are occasional exceptions, like the one you mention. They are so rare, however, that we seldom take the trouble to destroy the cells unless the queen is one of special value.

SHALL WE PRACTICE ARTIFICIAL SWARMING?

My bees do not swarm as I think they should, so I tried artificial swarming on one and have a good young swarm from three frames of brood; but the process is too slow for me. I swarmed them May 30th, and can't expect the queen to lay before June 20th. Would it not pay better to buy queens to start with? I am using the American hive, but I do not like it. What hive do you recommend for a beginner?

E. T. CASE.

Nunda, N. Y., June 18, 1886.

Friend C., the matter you mention is so fully discussed in the A B C book I do not think it is best to take space to go over it here. Circumstances must determine whether it is better to buy queens or raise them. The fact that the Langstroth frame is so universally in use would be a sufficient reason for adopting that in preference to any other, and I certainly think it gives as good results as any other.

A FIVE-CENT PACKAGE OF COMB HONEY.

Since trying the 1½-inch sections in crates, I am so well pleased with them that I think I shall henceforth use them almost exclusively. The combs are as nice and straight as I have ever had them, even with separators attached; and as they do not hold so much they can be retailed for 15 cts. or less, and a great many more can be sold. Dealers say, if they can not get any thing so as to sell it cheap, they do not want to handle it at all. If the people want small packages, and are willing to pay the difference in price, why shall they not have them? I have long thought (and do not know but that I shall soon try it) to have comb honey in five-cent packages, so as to take the place, in a measure, of the filthy candies. The way I should try would be to have a nice thin comb built in a regular frame, and have little tin sections, or something of the like, and just press them in and let the bees fill them. But may be some one has tried and abandoned it, long before I was a bee-keeper, though I became one not many years ago, when I was only six years old.

CHRISTIAN WECKESSER.

Marshallville, O., June 21, 1886.

Friend W., this matter has been pretty thoroughly discussed. I do not think you want any tin at all about your sections. It does not answer well, and it strikes me we had better not undertake making a package of comb honey at a less price than a dime; and I believe that many experiments seem

to decide the best way to do it would be by having a thin section. Make it the standard size, 4½ x 4½ inches, but let it be thin enough to hold 10 cts. worth. Perhaps ¼ inch, the width of our brood-frames, would be about right. In selling sections of honey at a uniform price, the difficulty seems to be in having them all alike. If they are made thin, as above, of course we do not want to use separators; and the result will be, that some will be heavier than others. Perhaps it would not matter if they were. We are now getting 18 cts. a pound on our wagon for extra nice white comb honey in sections. They are seven to the foot in width, and the price runs from 15 to 18 cts. Since you suggest it, I firmly believe that a ten-cent package of comb honey is going to be a big thing. On our wagon we endeavor to have goods sold at 5 and 10 cts., even change, as much as possible.

WHY IS IT THAT MY BEES DO NOT DO AS WELL AS MY NEIGHBOR'S?

Now I wish for a little advice about my bees. I commenced the season with 5 colonies, and have increased so far by swarming, to 12; but they haven't made a pound of surplus honey, yet there is a plenty of blackberry and raspberry flowers here, and it seems as though they could do better. My hives sit on a level place, on good sawdust mounds, all in line, ten feet between hives each way, and close to a nursery of young apple-trees. They all face the east, and are in Langstroth hives.

BOX HIVES VS. MODERN BEE-KEEPING.

Last summer I got from one hive about 20 one-pound sections of surplus honey, which is the highest I ever got from one hive. I hardly ever average more than 5 lbs. to the hive, while only two miles away from me, in the same valley, a man who has about 40 colonies has already taken off nearly 400 lbs., and expects to make about \$400 or \$500 from the 40 or 50 colonies. What is the matter with mine? He keeps his hives on stands about two or three feet from the ground, and the bees he keeps in old-fashioned square box hives. If you can give me any advice on the subject, I should be very much obliged to you. I have never yet made enough to pay for the time I spent among them, to say nothing of the expense of the hives. I wish to make something on them if I can.

W. H. PRENTISS.

Prentiss Vale, Pa., June 21, 1886.

I think, my friend, that the hives or the way in which they are fixed has little or nothing to do with the amount of honey received by you and your neighbor; for although he is only two miles away, there may be a very great difference in the locality. This is easily shown by planting hives at different points in your immediate neighborhood, say from two to five miles apart. You will find that some will do a great deal better than others.

SPACING THE FRAMES TOO FAR APART.

I know you must be very busy while this enormous honey-flow is going on; but I must ask one or two questions. May 21st I put a primary swarm in a Simplicity, with 9 frames equally spaced, save two, they being too close. I covered them with new canvas, glossy side down. June 3d, 13 days afterward, I found the cloth being adherent, seven frames filled, other two partly, but many of them

strongly bridged across. First, is there any better cover than what I have? Second, must I tear the frames apart?

WM. S. ADAMS.

Queenstown, Md., June 7, 1886.

There is no better way than to tear the frames apart, cut out the combs, and make what use of them you can, and start the bees right. The use of comb foundation would have saved all your trouble.

SYMPHITUM ASPERRIMUM (COMFREY).

This has been advertised as something wonderful for honey-production and fodder-production, 100 tons to the acre. This is an old dodge, 40 or 50 years old. I don't think a fact can be produced to show where it yielded 10 tons to the acre, or where any animal relished it as food, unless it is brought to eat it by starvation.

THE RESURRECTION PLANT.

You will not often succeed in making the resurrection plant grow. The only way to do so is to get it as soon as possible, as gathered in its native home, and then do not soak it, but lay it on moist soil, covered with a bell-glass or tumbler, shaded, so it revives by degrees. This soaking full of water, and exposing to the air at once, won't do it. If you take immortelles and dampen them they will shut up; put them in the sun, and they will open almost daily; and so with helychrysum, rhodanthe, and so on.

F. J. M. OTTO.

Sandusky, O., June 21, 1886.

SPANISH-NEEDLE HONEY.

Your comments on the article of T. S. Robbins, in GLEANINGS of June 15th, led me to believe I could make a sale of some fine Spanish-needle honey to you next fall. We never fail to get a large crop. I have 30 hives arranged for extracting, and can pack in 1, 2, or five gallon jacketed cans. What can you offer for it per pound, f. o. b. ? We are now harvesting a crop of fine clover honey—4600 lbs., from 100 colonies (comb honey). We always winter on summer stands, with Spanish-needle stores, and have very few losses. Last winter (a severe one) we did not have a single loss nor a single case of dysentery.

F. BURKE.

Vincennes, Ind., June 19, 1886.

Friend B., we are at present so well supplied with honey that does not sell, that we could not promise to take any more. Perhaps some of the friends who see this will be able to take it off your hands.

WHY WAS IT THE COLONY WOULD NOT BUILD QUEEN-CELLS?

I have 14 colonies of bees, some bright Italians, and some mixed. I am in the flooded district. At the time of the flood here I had to move my bees twice, losing many by confinement, and some by falling in the water. I began building them up after getting them home. Two were queenless and weak. All built up well, as all had honey enough. May 8th, I had two natural swarms. I divided one, and started two nuclei with four frames each, with plenty of brood and eggs. Neither of them made an effort to make queen cells. I gave them each another frame of brood, with the same result. This I have done four times, as fast as the cells were sealed. On the 19th I examined them again; no queens, but bees plenty, storing honey and pollen. I have

given one of them the fifth frame with three queen-cells closed, and one cell still open. Can you tell what is the matter? They are not storing much surplus, for out of 22 days it has rained 20, with a cloudy prospect for more.

S. J. SMITH.

Chattanooga, Tenn., June 21, 1886.

I can not tell why those two colonies refused to build queen-cells, unless it is because they have some sort of a queen in their hives. Once in a while a colony gets a queen that does not lay, and they will very often hold on to her until they are rendered worthless. The only way to make them build queen-cells is to hunt them out. Introducing a laying queen would be the best thing, but they would probably refuse to accept a queen if it is as I have suggested.

REPORTS DISCOURAGING.

AN ADVERSE REPORT FROM TEXAS.

BEES have done worse this season than I ever knew before, one-half of them having starved to death. They commenced in March, the prettiest I ever saw, and raised a large amount of brood, and I was sure I should have a great many swarms by the 1st of April; but about that time we had a heavy frost that destroyed the bloom, and cold, continued rains until the 25th, and then it set in dry. We had no rain until the 18th of June. With such unfavorable weather we had no new swarms, and I don't think there were over half a dozen swarms in this whole section of country. I don't think that, in my 100 colonies, from the 1st of April to the 15th of June, they gathered over 10 lbs. of honey. They came through the winter rich; but on account of raising such a large amount of brood, and such unfavorable weather, they could not swarm. They destroyed their queen-cells, and clustered on the outside of the hives, leaving the impression they were going to swarm, until they ate up all their stores, then they began to starve to death.

About that time I was very busy cutting hives for myself and neighbors, leaving my wife to watch when they commenced swarming. By that means I neglected noticing them until I heard my neighbors complaining of their bees dying, then I began to examine, and found mine in the same condition. Then I commenced feeding, and fed 175 lbs. of sugar, but lost 10 colonies, from which you see it almost blasted my hopes and discouraged a great many beginners in the business, some of them losing all they had. What are left, however, are now doing very well, and the outlook is favorable. I am satisfied the Cyprians and Syrians are the bees for this country; for while the Italians and blacks give it up and quit raising brood entirely, the Cyprians and Syrians never stopped, and came through the drought strong, and are now working vigorously, while the others are just building up.

Notwithstanding the great disaster that has befallen the bee-industry in this section, I am not dispirited, and my faith is as strong as it ever was. I expected a great many swarms this season, and prepared to hive the increase; consequently I have about 100 extra hives on hand, and 80 lbs. of foundation, which I shall have no use for this year.

Gatesville, Texas, June 24, 1886. M. SIMPSON.

WHAT TO DO, AND HOW TO BE HAPPY WHILE DOING IT.

Continued from June 15.

CHAPTER XIX.

If ye be willing and obedient, ye shall eat the good of the land.—ISAIAH 1: 19.

I have before mentioned, incidentally, the importance of selling our crops at a good price after they were raised. To do this, as well as to do any thing else well, the heart must be in it. The text above strikes at the root of the matter—you must be *willing*. Your work must be a pleasure and not a drudgery.

One of the first things to sell is lettuce. After we sold out our crop of lettuce from the greenhouse, by a little bad management we had no nice lettuce to offer our customers for some little time. Finally, however, here and there a head began to be suitable. What fun it was to see them improve and enlarge in just 24 hours! Yes, I learned to see a difference in the heads between morning and night and between night and morning. What fun it was to go over the whole plot and carefully pick out such as would answer, until we could say, "There, I guess there are about as many as the boys on the wagon will dispose of to-day." They start out at six o'clock. When they get home at noon one of the first things to inquire about is, "Did you have enough lettuce?" Sometimes the reply would be, that it just went round, and that was all; at other times, "No, we did not have half enough. Why, it seemed as if everybody wanted lettuce to-day."

By and by the heads began to fill up faster; and wasn't it fun to get a great basket full that were just right! All of the good heavy ones we got a nickel apiece for; smaller ones, two for a nickel; while those that weighed a pound or more would readily bring ten cents. A little later, and some of the Boston-market lettuce-heads began to show symptoms of wanting to send up a seed-stalk. As this Boston-market lettuce is one of the staple sorts, especially for greenhouses and cold frames, I will give a cut of it here, which is kindly loaned me by Peter Henderson.



BOSTON - MARKET LETTUCE WHEN IT IS JUST READY TO CUT.

When the heads begin to burst and to send up a seed-stalk, the matter has changed. Instead of rejoicing to see the growth made each 24 hours, we begin to wish they would not grow quite so fast, until we could sell them off a little. Mr. Bushnell (who is, I think, the oldest one among us) began to tell me that I was going to lose some of them because they would burst and start up to seed before we could possibly dispose of them. I told him to just let me do the gathering, and I thought I could fix it. The next morning I went over the whole patch, and counted to see how many heads there were that would have to be gathered that morning. Then I cut all that would not possibly bear to stand another day. After this I cut the next worse, until I got as many as they could possibly sell. Then I spoke to the men on the wagon something as follows:

"Boys, if you can manage to sell all these heads of lettuce to-day, I think we can take all to-morrow morning that will be so far along they must be cut, and so on. Now, suppose you make a little extra effort to *push* the lettuce, even if you don't sell so much of something else, that we may avoid losing any."

What do you think the result was? Why, the first thing when they got home was to tell me, "Mr. Root, we sold every head of your lettuce, and could have sold more too if we had had it with us."

The next day I did the same thing, and so on, keeping ahead of the ripening until we had a little shower. Then Dame Nature was too much for me—the heads suddenly burst open—a great number of them.

Let me here digress a little, to say that I had for some time had my eye on certain heads that I wished to save for seed—some that had made great big hard heads which remained a great while, ready to cut, without bursting open at all. Now you can readily see that, had my whole patch been like these few choice heads, it would have been a great help indeed in working off the crop. Not only this, they got so large and heavy before they burst that we readily obtained ten cents each for them. Well, after the shower I put stakes about these choice heads, marking them "For Seed," so nobody would make a mistake and cut them. Then we

cut all the others that would not bear to be left in the ground an hour longer. We put as many on the wagon as would probably be sold by offering two pretty good-sized heads for a nickel. The rest we placed in the cellar, right on the damp ground. Lettuce can be kept one or even two days in such a place without any apparent wilting. It is better to cut them then than to leave them in the ground; for the sunshine after the shower would cause them to shoot up very rapidly; whereas, if they were cut off and laid in the cellar all this mischief would be at an end. By this kind of careful management our whole crop was worked off at an excellent profit; whereas, had the work been done carelessly by some one whose heart and soul were not in it, it might not have paid expenses.

Do you urge that it was not using our customers right to push things? I admit, that this might be carried to such an extreme as to be injudicious or wrong. But right here comes a point in regard to selling things. People very often buy that to which their attention is particularly called. We have two good salesmen on our market-wagon, and a small boy to do errands. A few days ago said small boy gave me quite an important fact. We happened to have a good stock of peas at the same time that we had a good stock of strawberries. Both needed pushing. Said the boy, "My pa can sell peas at almost every house. Mr. Weed can't sell peas, but he can sell strawberries at almost every house." Now, the probabilities are that we have many customers that have about so much money to expend for dinner, and it does not matter very greatly to them whether they have peas or strawberries. One man had got started in selling peas, and it came easier for him to make sales with them than with strawberries. With the other it was the other way. Of course, people should be allowed to purchase what they wish; but at the same time we all of us unconsciously influence people more or less with whom we have to deal. Let me give an illustration:

Some years ago, when we had a counter store on the fair-ground, I was a good many times greatly surprised that a thing which I expected would sell wonderfully, did not sell a bit, and *vice versa*. For a while I could not understand how my judgment was so much at fault. An incident gave the explanation. During quite a rush of business there was a complaint made that they were short of help. I accordingly asked my brother-in-law, Neighbor H., to please "lend

a hand." This he did willingly, for he is a great fellow to talk and visit. We had just received a fine lot of stereoscopes, and the price was exceedingly low. I expected that, on the fair-ground, we should sell a great many. To my surprise, the clerks informed me that the stereoscopes did not sell a bit. Neighbor H. took a fancy to the stereoscopes, and before I knew it he was selling them to almost every man, woman, and child that came along. Another clerk was selling great big retinned dish-pans to everybody he traded with, and all went away satisfied, and a good many declared their purchase was exactly what they had wanted for a long while. It worked something like this: One of the clerks who didn't care much about stereoscopes would show the instrument in an indifferent way, not mentioning that it was very much lower than they had been sold; and I shouldn't wonder if he sometimes omitted to tell the price at all. A customer would say, "Oh, I guess I don't want one to-day." Now, Neighbor H. would tell so much about it, and show it to such good advantage, that the bystanders were interested; and perhaps he would set some of the children to teasing papa to get an instrument, with a lot of those pictures, to keep in the parlor, etc.

Now just one more illustration, dear reader, in regard to this matter of selling your products; for indeed it is so very important a matter I hope you will excuse me if I refer to it again and again. A few weeks ago we purchased a barrel of honey-jumbles—a nice little cake sweetened entirely with honey—no sugar or molasses entering into its composition in any shape whatever. I was very anxious to have these introduced in our town, and introduced generally, because of the opening it promised to dispose of the surplus honey now in our markets; and I thought I gave the boys on the wagon special directions about showing and explaining what the cakes were made of. I was considerably disappointed, however, to find they did not go off very well. A few days later I did not see the glass case containing them on the wagon at all. I asked the driver for an explanation. He replied that they were out in the rain one day and got wet, and so they ate them up; what there were left. The rain water made the case untidy, and so they sent it down into the kitchen to be washed.

"But," said I, "aren't you going to carry them any more?"

He replied that they didn't know whether

I wanted them kept on the wagon any more or not. Now, if there is any thing in business that vexes me, it is to find that our boys or girls have dropped something, or pushed it away out of sight, and let it go; and then, when questioned about it, say they did not know I wanted it used or kept in sight any longer. I could not believe that the honey-jumbles would not sell if properly introduced; so I sent to the manufacturers for *10 barrels*; and then I explained to all those who went with the wagon that I wished them to take them to every house, tell the folks what the cakes were made of, and see if they could not get them started. What do you think the result was? Why, they sold *16 dozen* the first forenoon. The next forenoon they sold *18 dozen*; and in about a week they had sold *four barrels* out of the ten. It is true, I reduced the price from 10 cts. a dozen to 8 cts. a dozen; but I am sure that giving them a fair showing had more to do with it than lowering the price.

Do you see the point, you friends who till the soil, and raise honey or any thing else for sale?

Where a crop is going to spoil, there is no harm at all in using a little extra pains to sell as much of this as possible, in place of something else you are short of. If the lettuce is nice, there are few families where it will be wasted or thrown away; and it is relished by more or less people at every season of the year; but if your salesman is indifferent, or tired out, you may lose a great part of your crop in consequence, so you must keep an eye out for such contingences. Do the same thing with your radishes; and when raspberries and strawberries come, dispose of them in a like manner. Green peas are one of the great staples in market-gardening. Plan so as to allow nothing to go to waste, and have each article presented to your customers in the best possible shape, fresh and attractive; and this brings us to Chapter XX.

CHAPTER XX.

He that shall endure to the end shall be saved.—MARK 13: 13.

Not only will the man who patiently and faithfully endures, be saved, but he will be prospered here in this world. How many, many give up because, for a time, circumstances and conditions seem to be against them! When we first started out our market-wagon it was a thing so new and unheard of here that quite an opposition was raised to it. The grocers said it was not fair to go around to people's houses and catch their customers, and take away their trade. Men who had done a very little in the way of gardening thought that it was not fair that I, with my many resources, should break down their business by raising garden-stuff when I was not obliged to do it to get a living. Others thought the idea was ridiculous, that we could here, with our Medina clay soil, compete with the quality of the produce from Cincinnati and other great market-gardening points. Well, for a time it seemed as if there were some reason in all the above positions. People laughed at our produce, some of it; others refused to look at our stuff at all, because they thought we were not using the grocers right. A third said they never saw us have any thing nice,

When we raised lettuce in the greenhouse, and put it on the market in February, they wouldn't buy it, because, they said, nobody wanted lettuce in February; and we were finally obliged to send a large part of our crop to Cleveland, where we got *25 cts.* per lb. by the barrel for it, instead of trying to peddle it out on the streets here at home at only *20 cts.* per lb. Well, I didn't give up, for I knew, or thought I knew, that people would in time be educated to these things. Last year they wouldn't buy cauliflower, because they didn't know what it was for. Somebody finally discovered that it was good to make pickles, and we sold pretty nearly our whole crop at pretty fair prices, to be made into *pickles*. This year we started some kohlrabi-plants in the greenhouse; and during the month of June we had quite a lot of beautiful bulbs ready for the market. The boys suggested that the vegetable would not sell, because nobody knew what to do with them. Perhaps I should add, that our wagon this spring has been getting to be a little more fashionable; that is, the nice vegetables we have been sending out "talked" themselves, and won their way into

many new homes. Well, to my great surprise the kohlrabi very soon got a footing. It is true, that people did not know how they were to be cooked—a good many of them—and quite a number had never seen or heard of such a thing; but they had got into a sort of way of thinking that whatever we carried was good, if it were cooked right. Ernest's wife thought she would try cooking them as we do vegetable oysters, and they declared them to be "just splendid." Young married couples are a good deal inclined, you know, to call every thing "just splendid." Other folks cooked them as they do turnips or mashed potatoes, and they proved to be "splendid" that way. Pretty soon the kohlrabi-bulbs were called for a good deal faster than they grew, and we didn't have any trouble with overgrown ones. People called for them when they didn't know what the name was. One individual, after trying in vain to hit the name, said he guessed they called them "Kohl Abrahams." I could not think for quite a while where he got hold of "Abraham" until I remembered that Abraham was one of the greatest of the patriarchs, and a patriarch was often, in old Bible times, addressed as "rabbi;" or, at least, their descendants were so called in Christ's time. So our friend knew that it had something to do with patriarchs, and "kohl Abraham" was as near as he could get. Another customer wanted some "*Arabs*." Of course, he got what he wanted. We sell two bulbs for a nickel. What do you suppose an acre of ground would amount to with a good crop of kohlrabis sold at the above price? And, by the way, we can put kohlrabi on the market without trying very



KOHLRABI.

hard, before you can get cabbage, green peas, turnips, or any thing of the sort. Raise the plants indoors, just exactly as you do cabbage-plants. Plant them out in good rich ground; and before a cabbage would think of making a good head, these kohlrabis will have made beautiful

sized apple; for if allowed to grow very large they get woody and stringy.

SOMETHING ABOUT SAVING YOUR OWN SEEDS.

Now, a point comes in here that I want to talk about a good deal; in fact, I shall talk about it all through this book. I told you about marking the best heads of lettuce "For Seed." You want to do the same thing with kohlrabi, cabbage, and almost every thing else. Do you want to know why? If you could go to our kohlrabi-patch to-day you would notice that here and there are plants that are not going to make kohlrabi at all. Some of them look as if they hadn't quite decided what to do. One starts to make a cabbage-head; another has evidently got a mistaken idea that it was planted for a turnip, while a third is clear off from the track and is trying to put up a bunch of blossoms like cauliflower. What is the trouble? Why, the seed has not been carefully saved from choice specimens. The type of the plant has not been fixed by careful selection for many generations. You may say that I didn't purchase my seeds from a reliable house. Well, I got the seed from Peter Henderson or Landreth & Sons—I am ashamed to say I can not now tell which, and there is where I am to blame. You should know just where you got the seed for every thing you raise. Better still, you should raise your own seed, if it is a possible thing. The first kohlrabi that made a nice bulb should have had a stake put up beside it, labeled, "For Seed." Right here the interesting point comes in, that I do not know how they get seed of kohlrabi. I am going to find out, though.

There is an excellent little book published by Mr. Francis Brill, entitled, "Farm-Gardening and Seed-Growing." This tells us all about how to raise seeds of almost all our garden vegetables. Now, then, if I had for several years raised my own seed from none but choice bulbs, I myself could have fixed the type of our good friend "Kohl Abraham" (?) so that he would know just exactly what I wanted him to do when he got to the proper age to make a cabbage-head, a turnip, a cauliflower, or a kohlrabi. Our best seedsmen aim to do this; but, my friends, with the best intentions in the world it is next to impossible for all large seed-houses to have every seed they send out selected from none but such nice specimens as you and I can produce in our own gardens. It is the same with cabbages. We are now picking daily the prettiest little

heads (almost as hard and heavy as a turnip) from our patch of 2000 early cabbages. Now, while the majority are of heads like these,



PETER HENDERSON'S NEW "NEW YORK" LETTUCE.

quite a good many are making no head at all. They don't quite understand what is wanted of them, and so they are just acting foolish, and are of no use to anybody. They remind me of some boys and girls I have seen in this world. With the cabbage it is the fault of the parents and the early training; and I am afraid it is true, too, with foolish boys and girls — it is the fault of the parents and early training. Now, I have never raised cabbage-seed, and I don't know what I can do; but I am so well satisfied of what may be done that I would give to-day ten dollars for the seed of *one* cabbage-head in that patch of 2000. Do you want to know why? Because it commenced making a head almost as soon as the plant was taken from the greenhouse and set in the field, and a beautiful little head, too, hard and firm, and ready for the market fully *two weeks* ahead of any other plant in that field. The books on seed-growing say that this cabbage-head must be kept over winter before one can get seed from it. Well, it was raised so early I am afraid it will be a hard matter to keep it over winter, but I am going to try hard. I think I can get some sprouts from the stump, to raise some more heads later in the fall, that will give me seed next year, if I can not get seed from this one. Doubtless some of the older heads will smile to see me come out in print and confess my ignorance. Never mind, dear reader; let them smile. I have been "smiled at" a good many times in my life; but the ones who did the smiling at first, often smiled in *surprise* a few years afterward. Seed-growers have great difficulty in fixing the type of

their seeds, I well know; and when a new and superior seed is placed before the people, the growers are entitled to a good reward. And this reminds me that, after our Boston-market lettuce was sold and gone, we had arranged for a succeeding crop of Henderson's new "New York" lettuce, as he calls it. This lettuce not only produces immense heads, but it is remarkably slow about shooting up to seed. Great nice heads will stand for many days waiting to be picked, and the quality is equal to any thing we ever had. It is a large late lettuce, so it probably will not answer as well as for greenhouse culture. As this "New York" lettuce seems to be quite an acquisition, we give a cut of it.

This lettuce makes wonderfully large heads. It is nothing to have them weigh from a pound to a pound and a half; and the inside of these great heads is as white and crisp and nice as celery. As it is not at all bitter, I have often eaten a whole head with great relish while out in the fields. Although it is very slow in sending up seed-stalks, we find somewhat of a tendency to rot, unless it is cut, say, in a week or ten days after the heads get fully grown.

In the fore part of this chapter I mentioned the prejudice that existed toward our market-wagon when it first started. Well, notwithstanding this prejudice, and notwithstanding it did not at first pay expenses, we kept it going right along day after day, and even during the winter: when the roads were suitable we went with either wagon or sled. In the winter time we carry apples, turnips, potatoes, parsnips (when the weather is suitable to dig them), vegetable oysters, winter squashes, celery, etc. When the roads were too bad to go with a single horse, we sent out a stout double team, one that is generally used for plowing, drawing manure, etc. Going out under unfavorable circumstances during bad weather occasioned criticisms again, because people generally could not understand why we should stir ourselves so much for so little trade. My purpose was, to give them to understand that the market-wagon expected to be a regular institution, and one to be depended upon. Well, it seemed for a time as though prejudice was so great I should have to give it up; but I have found the little text at the head of our chapter true in business matters as well as in spiritual things. A writer on the management of horses once said, if a horse

disobeys you, strike him one good smart cut with the whip—just one and no more. When he disobeys you again, do the same thing. Show no resentment and no anger, but simply give him to understand by many repetitions that disobedience brings pain. By no means let him see that you are angry or mad. Teach him to think you are a machine. In a little time he will learn to obey as a matter of course. The same process, it is said, will cure a kicking cow. Be sure, however, that you do not talk loud, or yell at your dumb friends. Now, humanity, in some respects, is like a dumb brute; at least, there is more or less *animal* about all of us. If community gets prejudiced against you, don't talk, or make a big fuss. By no means get to talking loud, or yelling about it. Go ahead in the course you think is right, as if you were a machine, and teach them that unkind words or prejudice has no more effect upon you than it would have on iron and steel. *Endure to the end.* Let them know that your endurance is like iron and steel; that is, a quiet, patient, kindly endurance. By and by they will drop it all and forget it all; and when they discover that you are not going to adapt yourself to their notions, they will, *if you do your duty*, adapt themselves to your notions.

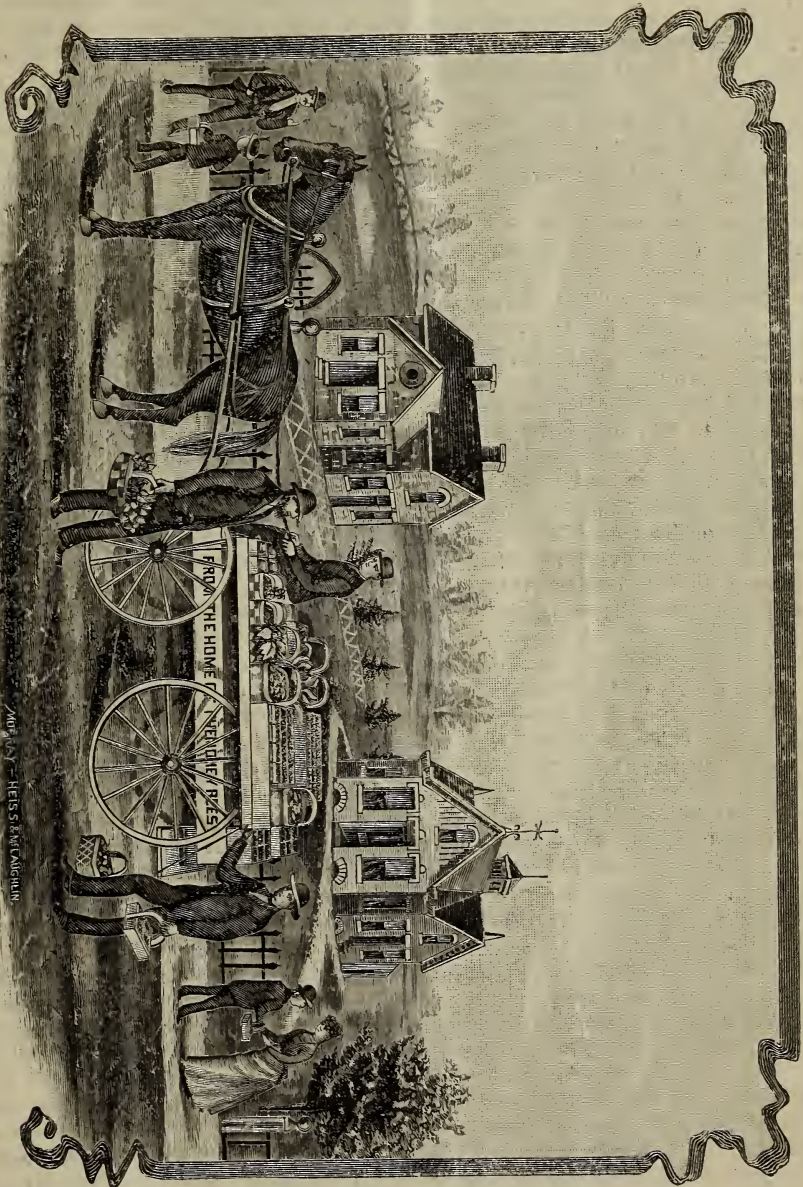
I was a little amused, a few days ago, to hear Mr. Weed say that I had no conception of the feeling that was growing up in favor of our home-grown stuff, compared with that which came from the cities. He said it was getting to be so, that, no matter how nice an article he offered, the question was, "Did you raise this on your grounds, or was it shipped from the city?" If he told them it came from the city, it was handed back: if it was our own production, it was taken at once, without any further question.

Yesterday we had a fine lot of nice "Jersey Wakefield" cabbages that were purchased from the city, because our supply ran short. We ordered the best that could be found in the market, and got them. When the boys got back they said they had an order for two of our best *home-grown* cabbages. Nothing was said in regard to price; they must have some that grew on *our* grounds or none at all. Our wagon has not yet been running a year. Probably one thing that has contributed this spring to capture public sentiment is the fact that a great deal of our stuff is gathered in the morning, before six o'clock. Our customers get it fresh with the dew of morning still on it. Raspberries and strawberries are often picked, and sent

by a boy to catch the wagon; and the small boy before mentioned, who accompanies the wagon, comes back almost every day with an order for "half a dozen more lettuce—more kohlrabi—25 winter-cabbage plants—6 quarts of strawberries, to be left at Mr. —'s at exactly three o'clock," etc. The difference between things absolutely fresh, just gathered, and those that have been standing by the door in front of the grocery store for one or more days is a big point. While strawberries were selling on the street at 6 and 8 cts. per quart, we received 10 cts., for fresh ones right straight through the season. In fact, we have not sold a quart for less than 10 cts., unless it was some that were left over; the same way with raspberries, and the same way with peas. Inquiry is even made as to whether the *new potatoes* we carry around are raised by us or bought; and, by the way, I want to say a word in regard to

NEW POTATOES.

Some time about the 15th of April my wife informed me that some potatoes in a large pail in the cellar had sprouted to such an extent that they bid fair to make a huge bouquet, only the bouquet was composed of leaves and not flowers. I took them at once to the field to plant. Mr. Bushnell said I might as well pull the sprouts all off, for they would die anyhow. I told him they would not die after I had got them fixed. I chose some mellow sandy loam near where they were sowing parsnip-seed. I pulled the potatoes out of the pail myself, separated the roots, and then cut them, *a la Terry*, so as to give a good chunk of potato to every strongsprout: the end of the potato containing a good many small eyes was cut off and thrown away. Then I planted my potatoes as you would put out cabbage-plants in the furrow, putting ground around them with my own hands. A nice shower came soon afterward, and I pointed triumphantly to my potatoes, 6 inches high with green leaves on them before any of the rest of the potatoes were above ground. June 18th I thought I would see what kind of potatoes there were under the great branching tops. Well, to my astonishment the potatoes were of good size, and a pretty fair quantity in each hill. They brought 35 cts a peck readily. As nearly as I can make out, they were the Early Ohio. Now, then, my friends, do you want any better business than that—in 64 days after planting, a pretty fair crop of potatoes that sell readily at \$1.40 a bushel? If I had some more sprouted Early Ohios I



OUR MARKET-WAGON AS IT APPEARS BETWEEN 6 AND 7 O'CLOCK IN THE MORNING.

could get another nice crop of potatoes right off from that same ground. The whole thing is a very simple matter, and I mention it chiefly to illustrate the possibilities that are open to those who *claim* to be out of employment.

Now, then, once more in regard to the last part of the title of our book, "How to Be Happy," etc. Did I enjoy planting those potatoes? Why, to be sure, I did; principally because I thought I saw a plan of materially shortening the operation of getting early potatoes; and I did it nicely and carefully, so as to be sure they would succeed. They were hoed very little, because the whole crop was finished before the worst weeds got a going; in fact, the care of them was almost nothing. Did I enjoy digging them? To be sure, I did; and I enjoyed it *hugely* too. Some of the happiest hours I ever spent were those employed early in the morning picking out lettuce-heads that were big enough to sell, and, a little later, in selecting those that must be sold at once or their value would be gone.

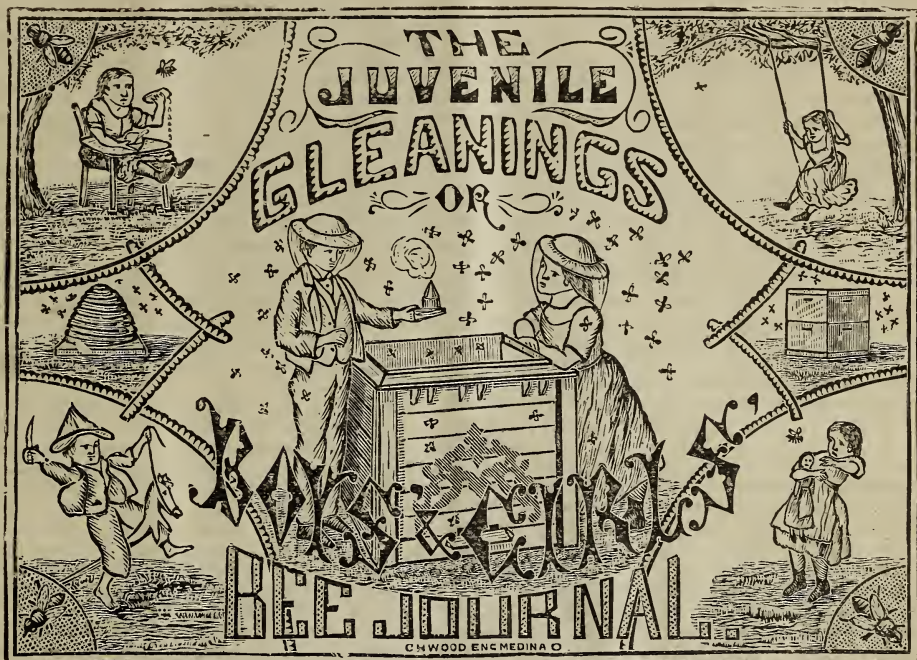
Let us branch off from plants and animals a little to consider this point of enduring to the end in another way. We all of us complain more or less because things do not move faster, especially in spiritual things. Some years ago I took a boy from our streets, with the hope of making him better. He made me no end of trouble. He used tobacco; and when I discharged him for breaking our rules, he took pains to use blasphemy whenever he saw me, when I had occasion to come near him. By and by he was in straightened circumstances, and wanted work again. I gave him another chance. Again he had to be suspended or discharged. He seemed to be going from bad to worse. By and by he wanted to be tried still again, but it was the old story. I tried hard to be patient—prayed for a quiet and steady spirit, and kept on trying him, even when I had no heart in it, and no hope. Now, my friends, when that boy discovered that I had no spite or revenge, that I was kind, envied not, not puffed up, didn't behave unseemly, and, above all, was not easily provoked, he gradually gave over his bad habits, and, to my astonishment, seemed to, *of his own accord*, respect our rules, and, I am inclined to think, respect *my poor self* in a certain way. I am beginning to admire him, while I thank God for having answered my poor weak half-hearted prayers for him. I had unconsciously been, after a fashion, *enduring to the end*; and without thinking of

saving myself, the probabilities are now that my quiet course may have saved *the boy*.

Since I have said so much about our market-wagon, I think I will give you a picture of it right here. Our artist has done his work pretty well, only that he has got rather more business about the wagon than occurs as a general thing. The number of men employed will depend, of course, on the size of the town or city; and very likely in starting the business one man would raise all the stuff, drive the horse, and sell out the whole load. Where a good trade is established, the fact that the vegetable-wagon is in the neighborhood may be indicated by ringing a bell or blowing a horn, the way the milk-men do; but where you have got to work up a trade as we have had to, nothing answers like taking a basket of samples and going to the houses. Our boys first tried it by simply inquiring at the door if any vegetables or fruits were wanted; but they soon found that this didn't work so well as to have a basket of samples to show as they went along.

The driver, if he understands his business, will get back in the middle of the wagon when trade commences, and measure up peas, get out what is wanted when the load is large, and make himself busy in a variety of ways. If time is short in loading up the wagon in the morning, the stuff may be put in baskets, and the driver can tie the onions, beets, radishes, etc., in neat little bundles while he waits for his assistant who is going around to the houses. It should be the driver's business, also, to carry a memorandum-book, and take orders, charge up things that are not paid for, and relieve the seller from every thing of this kind. Make it a study to economize time in every way possible; plan to have every thing done on rainy days that can be done under shelter. We do our selling every forenoon. I have often heard Mr. Bushnel say that it was very seldom you could find a salesman who would sell garden-stuff at a good rate all day long. This kind of work draws on one's energies, and therefore the best and most rapid sales are made in the morning. Toward noon the salesman gets tired, mentally and bodily. After he has had a good dinner, and a fair amount of rest, he may be able to do a tip-top afternoon's work in setting out cabbage-plants, cultivating, or something of that sort; at the same time he would have made indifferent work of pushing garden-stuff lively in the *afternoon*. Study your plants; study your helpers; and, above all, study *yoursself*.

To be continued Aug. 15.



He that is faithful in that which is least, is faithful also in much.—LUKE 16:10.

MYSELF AND MY NEIGHBORS.

For God so loved the world.—JOHN 3:16.

I WONDER if the little friends to whom I talk have a very clear idea of the many different definitions there are to the word "world;" that is, did you ever think in how many different senses it is used? We often mean by the word "world" the planet on which we live; but that is not the sense in which it is used in our text; for God could not love this planet of itself in the way in which he loves us. The word "world" is used in the Bible many times to indicate the things belonging to this world, which shall soon pass away. We are admonished not to set our affections on worldly things, because they are transient. Well, in our text it is very plain that the meaning is, that God loves the children of men; he loves humanity; he loves the people, all of them, even those who are unlovable; and he loves us so much that he sent his only Son down here to teach us and save us. God loves the people because they are *his* people; therefore *we* ought to love the people. We ought to love the busy throngs of humanity that stream about us and past us in swarms all around the most of us. If we want to be happy in this world we need to love humanity as much as we love ourselves. Loving the people is the opposite of selfishness. When we say that men and women or boys and girls love themselves, we mean that they are selfish. If they love themselves more than all the rest of the world together, they are pretty sure to be very disagreeable. We ought to love them, how-

ever, even if they *are* disagreeable. Jesus said, "Love ye your enemies, and do good to them that hate you." You see, if we love our enemies, we shall be pretty sure to love everybody, just as God does. Then we shall be fit to live with God, and to be with him when he sends for us. I believe that, as a rule, children, especially very small children, do love everybody. How the baby laughs and crows, and looks happy every morning! Does the baby at your house giggle and bubble over with fun every day? If the house should burn up, I suppose he would laugh in a very little while, if he didn't while it was burning. He is happy, because it is fun for him to live; and he thanks God for giving him life. Perhaps he does not think of it in that way, but he enjoys every thing—that is, if he is a good baby; and babies, like neighbors, are apt to be very much like their surroundings. Do you reply, that *everybody* loves people—that is, as a general thing? No, everybody does not like his fellow-men. Sometimes we have people who go off by themselves away out in the woods, and purposely get away where there are not any neighbors. We call them hermits. Then there are people who always stay at home. They do not go to picnics or celebrations on the Fourth of July. They don't go to meeting or Sunday-school. They stay upstairs, or out in the fields. Some of them lock the doors so the neighbors can't come in. If they don't lock the doors of the house, they lock the doors of their hearts. They have no friendships or confidants. We call such people misanthropes. "Misanthrope" means a man-hater. Well, now,

man-haters are not very common, in one sense; but in another sense they are quite common. The great enemy of mankind, he whom the Bible says goes up and down the world like a roaring lion, seeking whom he may devour, tries to make people man-haters. He persuades them that their neighbors across the way, up street and down street, and all around, are selfish and proud and bigoted and scheming, and bad at heart. Sometimes Satan whispers these wicked thoughts to even the best of us—at least, I believe he does. I think that I, as a rule, love humanity. I like boys and girls, and I like men and women. I like to help them; I like to work for them; and, as a rule, if they do not appreciate my kind efforts, I like them still. I love them because the Savior loved them. If you want to know how much the Savior loved his disciples, read the last chapters of John. He loved poor Peter, even when Peter was so foolish and untruthful and cowardly and weak; he loved poor Judas, even when he knew there was no hope of making a good man of him; he loved James and John when they got so proud and selfish that they wanted to have places in heaven next to himself, and crowd all the rest away. In the chapters I have mentioned, you will notice how earnestly and fervently he prayed for them; and when those wicked men were killing him, he took their part so far as to say, "Father, forgive them, for they know not what they do." Isn't this a beautiful example and lesson for us when we get cross and contrary, and think our neighbors are not lovable?

Well, I don't always feel the way I do now. I wish I did, though. Sometimes I have contrary, ugly streaks, and I feel bad about it, and I am ashamed of it. I don't often let anybody know it, of late years; but sometimes these ugly feelings trouble me for quite a spell. Two or three Sundays ago, while I was in Church, Satan got hold of me. I suspect the first thing that made me cross was because somebody shut down the windows because they thought the breeze was too strong, when it seemed to me that we needed the fresh air very much indeed. I got to thinking how selfish the man or woman was, who sat close to the window. Then I looked at somebody who sat near me, and I felt cross at him. I didn't quite hate him, but I felt cross toward him. Then I felt cross toward the next man, so I thought I would look at some of the nice girls and women, thinking to myself, "Surely, they are lovable;" but, to my surprise, Satan whispered they were proud and silly, and that, in trying to fix themselves up nice, they just made themselves ridiculous. Then I looked at the people, and I began to be frightened to find that I felt hateful toward all of them. Then I looked at the minister. May God forgive me, because, for a brief moment, I felt hateful toward him as well as toward all the rest. I am sure it was not myself, but Satan, who whispered that the preaching was not doing a bit of good—that he was away off from the track, and that there was no use in trying to do any good with *such* a miserable lot, anyhow. I tried to think of something better,

and to put away these evil thoughts, but they would not go away. "Lord, help!" began to well up, and finally I prayed most earnestly that God would help me to love my fellow-men. The answer to the prayer did not come right away, but I knew it would before long. I *knew* it would, because I have, hundreds and hundreds of times, prayed in that way before. This time it seemed as if I had got to have a regular rough-and-tumble fight with the adversary. As the wicked thoughts came teeming up, I almost groaned in prayer, "Lord, help me to banish these evil thoughts and evil spirits." Soon after this, peace came, but not much joy or hopefulness. I felt sore (or something like it) over the conflict. But I had done the best I knew how, and I felt a *sort* of happiness, *because* I had done the best I could.

In teaching my class after the sermon was over, I was startled all at once by a feeling that I loved the boys in my class more than I had loved them before for a long while; and the best part of it is, that that bright experience is not gone yet. When I got over to the jail I loved the poor friend I found there, and I plead with him to fight against evil as I had been fighting, for his own sake and for Christ's sake. I came out of the jail a little surprised to find that I was happy—yes, very happy; and the battle I had fought during the day helped to make me happy. It seemed as if it had been a sort of schooling for me—I felt stronger and better for it.

Now, there is almost always a sequel, as it were, to these bad feelings. I told you a month ago of the invisible forces that are at work in these frames of ours. Well, I suspect these forces at times have something to do with this. For some time back I have been getting up very early mornings—at half-past four and five o'clock. By force of habit I got up about the same time that Sabbath morning. Some of you begin to lift your eyes now, and may be think, if you don't say so, "Why, you poor foolish fellow, your overworking yourself was what made you sour and cross." Well, may be it was; but even if so, in answer to my prayer God pointed out to me the mistake I was making, and God helped me to rise above the effects of weariness and fatigue, and to say, "Get thee behind me, Satan." But feeling tired at the time of closing the Sabbath-school and before going to the jail, I laid down on the lounge and slept, I think, *two solid hours*. When I woke up I was in the proper frame of mind to love everybody. Now, look here; don't let's drop this just yet. May be your mother, your wife, your sister, or your child, is overburdened with cares and work, and has lacked sleep. Perhaps the one you are praying for makes slow progress in Christian grace, just because of overwork. What has that to do with you? Why, this much: Don't say a word, but just quietly go and help your mother; find out what she wants done, and do it for her nice and well. Plan to give her the amount of sleep she has been lacking, by bearing part of her burdens. The same with your father, sister, or brother or wife. You can do *this*, even if you are

not a Christian; that is, one ought to do this, even if he does not profess to be a Christian. Then branch out a little and try to give a friendly hand to your neighbors in general. Learn to enjoy loving the world, or humanity, and in doing kind acts for them, and by so doing you will have found the pearl of great price.

Let me add, in conclusion, that a nap in the middle of the day, when my nervous force seems to be used up, I have discovered to be worth more to me than any kind of medicine that was ever put into bottles. Some of you may smile, and say, "Oh, yes! it is very well for one to talk about sleeping in the middle of the day, when he can take the time for it." To which I add, I accomplish *more* by so doing. I enjoy getting up with the sun, or a little after; and then when I work myself thoroughly out, I enjoy a good sound sleep between nine and ten. After my nap I can come into the office, right into the midst of the great rush of business, and do lots of *good* work in a very little while, because, you see, I love everybody then; yes, *all the world*, even as God the Father himself "SO LOVED THE WORLD."

MRS. HARRISON'S LETTER TO THE JUVENILES.

SOMETHING ABOUT CARP AND OTHER FISH.

DURING the busiest season of the year in the apiary, I am compelled to be a patient at an institute where electricity and baths are the remedies used. I've been very much interested in the papers in GLEANINGS, "In having something to do, and being happy while doing it." There are ten ponds here that are utilized for the rearing of fish, and I thought that perhaps some of the juveniles might like to know something about them.

There are several springs that issue from the bluffs, and these flow into four ponds. The first reservoir is rather deep, and in it is a school of Rocky-Mountain trout. Two others have fish from the Illinois River; and the fourth, brook trout. In the last-mentioned, cress is raised, as the clear cold water is its native element. I've often wondered whether Mr. Root raised this plant in his ponds, as it has a commercial value in our large cities, equal to lettuce, as a salad.

The other ponds are fed by water from an artesian well, and are used principally for the rearing of carp. The doctor claims that carp grow faster in these mineral waters, as it is warmer in winter.

I watched the old fish spawning one morning; and as they swam in couples around the ponds, throwing the spawn upon the cedar boughs and grass, they appeared to stir up the water like geese or ducks. I examined the eggs through a magnifying glass, and it seemed like a tiny hen's egg, with white and yolk; but the living embryo within was not a chick but a fish. Plenty of tiny carp were swimming around, as no other fish are allowed in the pond, to eat them up. The good dog Major catches the frogs around the border of the pond whenever he gets a chance.

In one pond there are about 1500 yearling carp, and the doctor bated a hook for me to catch some, so I could examine them. I didn't have to wait

long before I had a scale *Carp* weighing about a pound, swing around upon the hook. I took out the hook carefully, and, after rubbing its pretty sides, let it glide away into the water, to tell its companions of its adventures. The doctor says, "Now you must try to catch a mirror carp; that one was a scale." The scale seem to bite the best, as I caught a number of them before I caught a mirror; but, oh joy! what a beauty! It had rows that looked like scales as large as nickels, and such pretty colors! I caught one that was leather-colored, and had no scales that I could discover. There were also some fish that they call hybrids. Their father and mother were carp and goldfish. They are very pretty. I infer that carp and goldfish belong to the same family.

It takes work and care to raise fish, as well as bees. The trout are fed chopped beef twice a week; and when they were eating, it made me think of happy boys and girls at play. The carp are fed twice a week, too, on chop—corn and oats ground together.

The iron pipes conveying the water from one pond to another became clogged up, and a pump was screwed on, and water poured in; and by working the handle, soon a stream of muddy water poured out, and in a little while the water ran out, clear and pure, and the pump was taken off. The fish, in their gambols while spawning, had stirred up the mud in the bottom of the water. Moss grows on top of the water in these ponds, and is taken off occasionally. They had a laugh at my expense, when I asked why they put "wool" in the ponds. When the moss has dried in the sun it looks like coarse white wool, but soon decays. A man with long rubber boots on rubs the pipes occasionally, to keep the sulphur or other minerals from clogging up the holes in the pipes. Carp raised in these mineral waters have been eaten, and are of fine flavor.

MRS. L. HARRISON.

Peoria, Ill., June, 1886.

THE FLORA OF LOOKOUT MOUNTAIN.

ARE THOSE WHO HAVE APIARIES UPON A MOUNTAIN FAVORABLY SITUATED?

FATHER had 6 stands of Italian bees last fall, and they increased to 11 this spring. The weather has been too wet for them to gather much honey and pollen; and owing to that, we haven't taken much honey from them. The azaleas, laurels, and purple rhododendrons, which grow wild on this mountain, have ceased blooming. The chestnut and sourwood trees are in bloom. The bees seem to be working very well on the red-root, which grows on the mountain-sides. The huckleberries, raspberries, dewberries, blackberries, and June, or service berries, are ripening.

GEORGE LAWSON, age 12.

Lookout Mountain, Hamilton Co., Tenn.

So you are located at Lookout Mountain, celebrated as the place where a battle was fought above the clouds in the late war. As you have represented near you several different elevations, each of which has its own temperature, I should like to ask you if your honey season is not prolonged in consequence of it; that is, doesn't clover begin to bloom first at the foot of the mountain, and, as the season continues to advance,

bloom higher on the mountain? You know honey is first secreted from clover south of us, and the honey-flow gradually advances to the north with the season. Now, I have been wondering if there is not the same relation existing between the base of the mountain and the summit. The reason I speak of this is because the matter was mentioned by a writer recently, who has a mountain home, and who said that his honey season was prolonged. Is this the experience of others similarly situated? May we hear from such?

ERNEST.



Every boy or girl, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books.

Many of these books contain the same matter that you find in Sunday-school books costing from \$1.00 to \$1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock six different books, as follows; viz.: Sheer Off, The Giant-Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room. We have also Our Homes, Part I, and

Our Homes, Part II. Besides the above books, you may have a photograph of our old house apiary, taken a great many years ago. In it is a picture of myself, Blue Eyes, and Caddy, and a glimpse of Ernest. We have also some pretty little colored pictures of birds, fruits, flowers, etc., suitable for framing. You can have your choice of any one of the above pictures or books for every letter that gives us some valuable piece of information.

"A chief's amang ye takin' notes;
An' faith, he'll prinit it."

HOW TO AVOID STINGS.

DID you ever hear a bee scold? Perhaps you think he can't, but he can. After he has scolded for a while, talking pretty plainly, too, he will show you that he means what he says by, by—well, by something that hurts; you know what 'tis. If you have never heard a bee scold, just stand a few minutes in front of the entrance of a strong colony during bass-wood bloom when the bees are pouring into the hive heavily loaded. By and by you will see a little bee (one of the "sentinels," as we call them) twisting his head this way and that, as he surveys the proportions of the huge monster before his little doorstep. Pretty soon he flies up—and buzzes back and forth before your eyes—possibly followed by two or three more of his companions, and then he scolds, telling you almost as plainly as I can that, if you don't get out of the way, he will use his little spear. I have heard them scold, and fancy he talks something like this:

"Now, look here, Mr. Elephant, or Man, whatever you call yourself, you are right square in the way. Haven't you got more sense than to stand here hindering us when

there are dead loads of honey in the fields? There's not enough honey in the hive to winter on yet, and—just see the bees behind your great carcass, trying to find the door to our hive. If you don't get out of the way I'll stick you in the eye." About this time you will feel nearly cross-eyed, watching the little scamp, while his little voice sounds like a tiny buzz-saw sawing sections.

Now, perhaps the little bee doesn't say just these words; but at any rate he seems to think you have "no business" in front of the entrance, and that he will drive you off if it does cost him his life. So, little folks, I will say that, if you wish to save hard stings, I would advise you not to stand directly in front of the entrance.

Again, our honey season will soon be over in most Northern localities; and when the honey stops off suddenly, the bees will be apt to be cross for a while, especially if you are so careless as to leave bits of new honey lying around, or where bees can get at it by crowding through cracks. Wherever you keep surplus honey, *be sure no bee* can get at it, or you will be likely to have a terrible row, and no end of robbing and stinging. If your bees should get started to robbing during a dearth of honey you may be troubled the rest of the season. The old saying, "Prevention is better than cure," applies to robbing and stings; therefore, little folks, please be careful. When bees get to stinging badly, as they do when robbing has begun, you are liable not only to cause trouble in your apiary, but trouble with your neighbors, which may involve your papa in a lawsuit with them.

The time for you to learn to be careful is now, while you are young. Right habits in the apiary will be easily formed now while you are young, and you will never regret it when you grow older.

ERNEST.

NOT GOING TO LET THE BEES SWARM.

I am a little girl ten years old. Ma caught a swarm of runaway bees last fall, and gave it to me. I built it up nicely. They are now trying to swarm, but I pinch off the queen-cells, and won't let them. I call my queen Taddy, and won't let her go again. I love to work with bees, but my big sister squalls every time one comes within one hundred yards of her.

JENNIE H. PARK.

Concordia, Meade Co., Ky., June 19, 1886.

HOW TO GIVE THE BEES A DRINK.

My papa has kept bees for six years; he takes GLEANINGS. My mamma and sister and I came from Ohio last March. Papa brought his bees here three years ago. The bees out here do not make any surplus honey until after harvest. We have a wind-pump. Papa has a barrel full of water by the pump; he keeps a coffee-sack over it, so the water just comes up to the sack. The bees get on top to drink, and do not get drowned. When papa has queen-cells that he wants to save he cuts them out and puts them under little glass dishes over the other bees, so the cells do not get torn down, and they hatch out all right. FANNIE GOSSARD, age 8.

Friend, Salem Co., Neb.

HOW TO STOP ROBBERING.

My pa has 20 swarms of bees; he does not get much honey, for he does not run for it. He sells his

swarms. This spring he lost a good many swarms by the bees swarming out and trying to enter other hives, and then they get killed and lie on the ground. He has one swarm that makes a business of robbing, and the only way he could stop it was by taking a frame of brood from the others and placing it in the hive they were robbing, and placing the robbers in the place of the hive that was being robbed, and the other in the place of the robbers. He says that will stop the worst robbing. I don't work with bees, though I am not much afraid of them.

MAY BELL HORN.

Flicksville, Pa., April 28, 1886.

Thank you, little friend. The way in which your father cures a swarm that persists in robbing is the same as the one given in the A B C book. It works "to a charm," doesn't it?

ERNEST.

THE RESULT OF A QUEEN GETTING INTO THE WRONG HIVE.

Pa has five swarms of bees in chaff hives which he made himself. In transferring them into chaff hives the queen from one swarm went into the wrong hive, and we supposed she was stung to death, for we found her dead. Pa takes GLEANINGS, and has your A B C book, and would not be without it.

ALMA NEWTON, age 11.

Stella, Vinton Co., O., June 15, 1886.

HOW BROTHER FRED MADE A SOLAR WAX-EXTRACTOR AND FRIED AN EGG WITH IT.

Brother Fred made a solar wax-extractor in the spring, and in March he tried it to see how it would do about melting wax. It does real well. He got some of the nicest wax with it I ever saw. He thought he would try to see if it would roast an egg, so he put one in a dish in the extractor about noon, and about the middle of the afternoon it was cooked—too hard to eat. We were going to have one to eat, but lost it, so we have not tried to roast any since then. Fred had one colony of bees swarm, and took 22 lbs. of honey off, and two 12-pound crates are on yet, and they have got those about half full.

PERL Z. CRANSTON, age 14.

Woodstock, Champaign Co., O., June 22, 1886.

Tell your brother that he has done remarkably well. Now, if he or you either will give a clear description of how he made that extractor, so that any one else can make one like it, we will send him any thing he may choose from the 25-cent counter, and possibly we may do better than that even. If Fred's solar extractor will fry eggs, it certainly will melt wax; and I think we all want to know how it was made, as it is probably simple in its construction. Let us hear from you, so it can be published in next Juvenile GLEANINGS. You will remember that I fried an egg, but, like your egg, it was cooked so hard as to be unfit to eat.

ERNEST.

MORE ABOUT BROTHER FRED'S BEES.

We have a little cherry-tree in our yard, that father was mowing around one day, and we noticed on the tree, right down close to the ground, that the bark was bursted, and quite a number of little roots were coming through. The bark was bursted in three places. It looks odd. We have about 80 little chicks and 23 goslings. Brother Fred's bees have swarmed four times. The first swarm that came out, Fred and Perl had just started out to work after dinner, and we rang the bell for them,

and before they could get here the bees started off, and father stopped them by throwing cupsful of water on them while they were flying. I like to help hive the bees. Fred has ten swarms now, and they are all doing well, and we are expecting more any time.

NETTIE H. CRANSTON, age 11.

Woodstock, Champaign Co., O., June 22, 1886.

You are sure, are you, that the water had the effect of bringing the bees down?

ERNEST.

FROM TWO NUCLEI TO 12 COLONIES.

Pa made a row start last year with bees, by getting two 3-frame nucleus colonies of Italians from Hemphill & Goodman, of Elsberry, Mo. These nuclei increased to 12. Pa sold one swarm, and we let two get away. We had 9 to start in the winter. All wintered well on their summer stands. We have sold 3 swarms, and have hived 7 and lost several. Pa has some of the queens' wings clipped. We have some beautiful queens. I like to look at them. We have taken in all about 150 lbs. of honey this spring, and pa says he could take about 200 lbs. more right away if he had the time to do so. He makes his hives and frames himself. We use altogether the Simplicity pattern of hive, for pa thinks it is the best. We all like to read GLEANINGS. Pa says it has much of a Christian spirit about it that is good, and says that he is strongly in favor of uniting religious matters with bee-matters. We all esteem your Christian spirit highly. My letter has become quite long already. I wish to say before I close that I have one sister and three little brothers here, and two brothers gone to live with Jesus. I am the eldest living, ten years; my eldest brother living is named Ernest—a namesake of Mr. Ernest Root.

ESSIE STAFF.

Moscow Mills, Mo., June 26, 1886.

BEES FLYING INTO THE NOZZLE OF THE SMOKER; HORNED TOADS.

When my father is at work among the bees, he sometimes smokes them away, and they have so much curiosity as to fly right into the nozzle of the smoker, and there are burned. My father has about 150 stands of bees. I have for pets, horned toads. They are rather hard to catch; and when I do catch them I bring them home and put them in a tin pail or bucket, and keep them a few days and then let them go. They can live a long time without any thing to eat.

EDDIE BUTLER, age 12.

Los Gatos, Cal., June 19, 1886.

It is quite a common occurrence for bees, when enraged, to fly into the nozzle of the smoker. This is somewhat the way little boys and girls do when they are mad—they rush right into something that is sure to bring them to grief, without thinking or knowing the consequences.—Don't you think you are just a little cruel to keep the horned toads several days in a pail without any thing to eat. This I judge you do, as you say they will live a long time without food. We have one now in our apiary, which has been sent us by one of our friends. I presume it was in the mails nearly a week; but when it arrived it was very evident that it was quite weak.

ERNEST.

WHY DID OUR BEES LEAVE?

Papa bought a stand of bees last spring, and from that he had five stands. He thought he could winter the fifth one; but the poor bees died, so he had

four good stands this spring. On the 11th of April, two left, and their hives were full of honey. They went to our nearest neighbor's, and his bees killed all of ours, and on the 21st of April the third stand left. Please tell me why they left. Papa was sorry. He likes to work with bees and honey. The hives were all clean and nice when they left.

FRANCES HEMMERLY.

Forest, Hardin Co., Ohio, June, 1886.

I can not tell why your bees left, friend Frances. It is a matter that has been much discussed. Sometimes they seem to get discouraged and swarm out because they are few in numbers. It seems to be a sort of mania some certain seasons. A few years ago we used to have a good deal of complaint of swarming out in early spring; but of late we have seen but very little of it. I think strong colonies are the best preventive.

HOW TO MAKE HONEY CANDY.

My pa takes GLEANINGS, and I like to read the juvenile letters. Pa has 50 colonies of bees, and he clips his queens' wings, and thinks he can hive bees a great deal better that way than any other way. I will tell you how we make honey taffy to make it look like store candy. We boil our honey until it is stiff enough to pull, then we pour it into greased pans and let it cool; then we take it out, dividing it, leaving part red, and take the other part and pull it till it is as white as we can get it; then we draw both the white and red out to the size of a stick of store candy, then twist them together, making striped candy; then lay it on a plate. Ma uses honey for almost every disease.

Forest City, Mo. LIZZIE E. PURVIS, age 13.

Thank you, friend Lizzie, for your simple recipe for making honey candy. I have no doubt but that it will make a very wholesome and nice confectionery—much better, indeed, than the cheap candies we buy. I think I shall have to get that queen clerk (I mean my other half) to make some, and I will then report how we like it. By the way, is it not a good idea to devise as many new uses for honey as we can? Our friend Muth, of Cincinnati, is getting honey introduced for mechanical purposes. Our friends Crawford & Taylor, the bakers, mentioned in another column, have succeeded in making what I call extra nice honey-jumbles. Our friend Arthur Todd, of Philadelphia, makes and advertises honey candies. You see, all these different uses for honey help to raise the price of it. Shall we not have more reports (get your mamma to help you) on how to make honey candies, honey-cakes, etc.?

ERNEST.

SHALL WE KILL SWARMS TOO WEAK TO WINTER?

Two years ago we started with one swarm of bees. There were no swarms the first year. Last year we increased three and killed one that was not strong enough to go through the winter, and now we have 11. Two got away; all were by natural swarming.

Tilden, Ill., June 9, 1886. S. J. & WM. M. BOYD.

Thank you, friends S. J. & W. M.; but why should you kill a swarm because it was too weak to winter? Why did you not do the best you could with it, and run your chances of its living through the winter? You see, you would have been so much ahead if it had survived,

NOTES AND QUERIES.

A KIND WORD FOR MRS. COTTON.

I HAVE received several letters from bee-keepers asking me if Mrs. Cotton ever sent me the colony of bees that she promised to send me this spring. She did. About the first of May I received from Mrs. Cotton a swarm of nice Italian bees in shipping-box, and I don't think they are inferior to Prof. Cook's celebrated strain, which is saying a great deal, for I have some that came from his apiary. I will tell what else was in that box. There was as fine a queen as I ever saw. I put them into the Controllable hive that Mrs. C. sent me last year. They have given me two large swarms, and are working in the sections, and gathered more honey than any other colony that I have; so, score one for Lizzie.

HIRAM ADAMS.

Port Austin, Mich., June 28, 1886.

[We are very glad to get the above report, friend A. With the very large prices Mrs. Cotton charges for whatever she advertises, she certainly ought to give good measure and good quality, and we are very glad if she is beginning to do so.]

CONDITION POWDERS, EGG FOODS, CATTLE FOODS, ETC.

[It seems the Philadelphia *Farm Journal* looks at these things a good deal as I do. We clip the following from a recent number:]

We have no faith in condition powders, condimental foods, egg foods, and the like. They are all in the same boat with patent medicines. A poultry powder that sells for 50 cents a box was found by Prof. Jordan, of Maine, to contain 84 per cent of mineral matter, chiefly ground shells and a little bone, the rest being water and organic matter. A celebrated cattle food was found to be composed chiefly of wheat bran and corn meal, with a trifle of fenugreek, and a little sulphur. This was sold at 8 cents a pound.

DOES THE DRUMMING ON TIN PANS BRING DOWN SWARMS?

In the June 15th No. I see an article from J. J. H., in reply to which you say you would like to know if drumming on tin pans, or any noise that is produced to arrest a swarm of bees, does any good. I can tell you that any noise that may be made when a swarm issues, to drown the noise of the leaders of that swarm, will settle them on the nearest branch that is accessible. I have come to this conclusion from four years of experience in the bee-business. When I was there with my tin pans I always saved a swarm; when not, they were lost.

SAMUEL D. BATES.

Sikeston, Scott Co., Mo., June 15, 1886.

MRS. CULP TELLS US SOMETHING ABOUT HER NEW PUPIL.

Please accept thanks for the neat little compliment paid me by yourself and our brother "Just Hatched." Permit me to introduce him to you and the bee-keeping brethren and sisters generally as our minister, the Rev. J. S. Rickets, of the Ohio Conference, hoping you will all extend to him the right hand of fellowship—I'm quite sure you will all feel quite proud of him when you form his acquaintance, for he is, in my estimation, a very precocious bee-keeper. Just think of his writing for the bee-journals before he is a month old! With his and wife's assistance occasionally, things are moving on grandly in the apiary.

Hilliard, O., July 1, 1886.

JENNIE CULP.

BE CAREFUL HOW YOU DRIVE HORSES NEAR TO BEE-HIVES.

[The following comes as an additional warning to what has already been said:]

On the morning of the 9th inst. I lost a valuable family, saddle, and harness horse—stung to death by bees, caused by the neglect and disobedience of a hired man. He drove the horse with a loaded cart into an apiary of forty hives, but he did not turn as instructed. An effort was made to move the horse, but it could not be done until he had upset two hives, moved others and turned the cart over. The horse was removed by my wife and neighbors, and every effort was made to counteract the poison, but in vain. He died in two hours, of fits. J. A. SMITH.

Elora, Lincoln Co., Tenn.

JUST COMMENCED TAKING OFF HONEY.

I thought I was too poor to take GLEANINGS any more, but I find I can not do without it. I commenced the campaign with 52 swarms of bees. I have just begun taking off honey, and have taken off, up to date, about 330 lbs. The most of our honey is raspberry. SIMMONS WARFLE.

Tracy Creek, Broome Co., N. Y., June 11, 1886.

A B C OF POTATO CULTURE TO BE PUBLISHED IN THE SWEDISH LANGUAGE.

Mr. Stalhammar, editor of the *Swedish Bee Journal*, Gothenberg, Sweden, writes for a copy of "Winter Care of Horses and Cattle" as soon as it is out. He is intending to publish "A B C of Potato Culture" in Swedish. T. B. TERRY.

Hudson, O., May 5, 1886.

PERFORATED ZINC.

The sample of perforated metal is received. The perforations are too large for my purpose. I have several of Alley's queen-traps which have the same sized perforations as the sample sent. The principal purpose which I make of the traps is to capture the queens of second and third swarms; but I find that, while they will catch all old or laying queens, they will not do so with all young ones, many getting out and going with the swarm, but I think they could not do so with the smaller size of perforations. East Key, N. Y. O. M. WHITCOMB.

[Are you sure young queens can get through the perforated zinc we sent? We selected some of the smallest queens in our apiary, but we could get none through it; see page 424.]

TOBACCO COLUMN.

HAVING noticed in GLEANINGS that you are offering one of your bee-smokers to every one who will agree to quit using tobacco, and not knowing whether I am entitled to one, I thought I would state my case to you, and see if you think I ought to have one. I had used tobacco for 6 years, and had tried to quit once before, but failed; but I am glad to say that at present it has been 16 months since I took a chew of the weed, and I feel safe in promising to pay you well for the smoker if I ever use the weed in any form again. If you think me worthy of a smoker, I shall take it as a favor. W. L. BANTA.

Valley Spring, Tex., April 23, 1886.

Friend B., our offer of a smoker is to those who give up tobacco because of what has been said in GLEANINGS in regard to it; but as you give us the usual promise, we have sent you a smoker to kind o' clinch the bargain. Now, you see if you ever put another bit of tobacco in your mouth it will cost you just 70 cents.

I received the smoker you sent me. I was very much pleased with it, and am much obliged. If I ever commence the use of tobacco again I will send you your dollar. C. H. MARTIN.

Lee, Allegan Co., Mich., June 4, 1886.

I certify on honor that I have abandoned the use of tobacco, and desire your promised boon. I also certify on honor that I will pay for the smoker if I ever commence the habit again. W. W. WOOD.

Wallaceburg, Hempstead Co., Ark., May 21, 1886.

ONE WHO IS 24 YEARS OF AGE QUILTS, AFTER HAVING USED TOBACCO FOR EIGHT YEARS.

After using tobacco for eight years I have quit, and expect never to use it again, although I am only 24 years old. If you think I deserve a smoker, please send me one; and if I take up the habit again I will pay for the same. JOHN W. WRIGHT.

Cass City, Tuscicola Co., Mich., May 1, 1886.

My friend E. C. Kitchens tells me that there is due me a bee-smoker, as I on the last day of last December quit using tobacco, with the intention of never chewing or smoking any more. I have been chewing tobacco nearly all my life. I am 47 years old, and a native-born Texan. I make the usual promise to pay for the smoker, if I break the pledge. J. A. ISAACKS.

Brownwood, Tex., April 9, 1886.

THE GOOD EFFECT THE TOBACCO COLUMN IS HAVING UPON OUR READERS.

I have seen that so many have quit the use of tobacco who read GLEANINGS, that I have also given it up after using it over 20 years. I am determined to quit for good by the help of the Lord. If you think me worthy of a smoker you can send me one; and if I ever use tobacco again I will pay you for it. GEO. W. BECKHAM.

Pleasant Hill, Lane Co., S. C., May 10, 1886.

A THIRTEEN-YEAR-OLD BOY WHO HAS USED TOBACCO FOR FOUR YEARS, HAS NOW QUIT.

I see in GLEANINGS that you give a smoker to everybody who quits the use of tobacco. I have one hive of bees, and am 13 years old. I have smoked and chewed for 4 years, and have quit. Please send me a good smoker; and if I ever use tobacco again I will send you the price of the smoker twice; but I hope I shall never use it again. STACY NAYLOR.

Beloit, Mahoning Co., O., May 12, 1886.

BY THE HELP OF GOD, WILL CONQUER THE HABIT OF USING TOBACCO.

I like your A B C book and periodical well. Please don't send me a smoker, for it would bring up unpleasant recollections of repented and forgiven sin; yet accept my thanks for your kind interest in me and my fellows in tobacco guilt. I have reformed entirely, and have induced Rev. S. T. Williams, of Philadelphia, N. Y., to quit. He burned his tobacco and pipe, and dropped on his knees with me, for help from on high to enable him to conquer the world, the flesh, the devil, and the weed. The bee-men of this locality are scarce. T. HOWLAND.

Clayton, Jefferson Co., N. Y., May 8, 1886.

My pa began to read GLEANINGS last fall, and on Christmas day he quit the use of tobacco. I have one stand of bees. If you will send me a smoker I

will send you the price of it if my papa begins to use tobacco again. He says he will never use it any more.

GILMER R. HOUGHINS.

Pipestem, Summers Co., W. Va., May 17, 1886.

HERE IS THE RESULT.

I received my smoker, and my papa received his "Dose of Truth." He thinks it a grand document. His weight last Christmas was 175 pounds. Since he has quit the use of tobacco he has gone up to 207 pounds. His friends say he will have to commence it again, but he says, "No, never."

GILMER R. HOUGHINS.

Pipestem, W. Va., June 7, 1886.

That is the kind of talk, friend Gilmer. Tell your father not to take up tobacco again, even if he should weigh half a ton.

TWO MORE WHO TAKE THE PLEDGE.

Giving up tobacco has become so much of an established fact that a couple of men recently came into our store, asking for smokers, saying they were going to give up tobacco, and were willing to have their names published; and if they ever use it again, they will pay for the smokers. The names and address are as follows: Alex. McKee and U. B. McIntyre, Hinckley, O.

KIND WORDS FROM OUR CUSTOMERS.

I have received the labels, and am very well pleased with them, both as to quality and price. Thanks.

Anaheim, Cal.

ALFRED W. HINDE.

I have received the goods I ordered of you. They gave perfect satisfaction. The sections were the finest I ever saw.

W. A. ANTHONY.

Sasser, Terrell Co., Ga.

My foundation came to hand June 19th. It was the best I ever had. Please accept thanks for your kind and prompt attention.

MRS. M. A. WILKINS.
Seneca, Nemaha Co., Kan., June 22, 1886.

I received sections and other things in good order. I am very much pleased with them. I will order some more soon.

HENRY WALTER.

Orange, Orange Co., Tex., June 22, 1886.

I received the \$1.00 queen from you some time since. I introduced her in a hive of black bees; when her eggs hatched I found they were very bright pure Italians. I am very much pleased with her.

Hibernia, Fla.

C. MOORHOUSE.

Wife says we enjoy the Home Papers very much, and wishes you may be spared to give them to us for many years yet. You see I have put it *in*, because I agree with her, and feel that GLEANINGS would lose a great charm, and that its power for good would be lessened very much by the omission.

McMinnville, Ore.

FRANK S. HARDING.

PROMPTNESS.

The imported queen came to hand June 2d. I introduced her at half-past 6 P. M., on the same day. To-day, June 3d, at 2 P. M., she has laid over 200 eggs. How is that for introducing imported queens? Thanks for promptness. I did not think you would receive my order in that short time.

La Salle, Ill.

THOMAS GEDYE.

OUR CAREFUL PACKING.

The goods came in good condition, and were quite satisfactory. When I deal with you, friend R., I am never fearful that, when my goods come, they will be carelessly put up, and consequently damaged on arrival; and when I see them I feel like exclaiming, "Oh! if everybody would be as careful, how much pleasure and benefit it would amount to in the world."

JOHN S. WOMBLE.

Oriedo, Orange Co., Fla., June 24, 1886.

I received goods shipped by you. The order was correctly filled; goods came in fine order. I am well pleased with every article and style of packing—so much so that I expect to give you my entire patronage in the future.

W. F. COOPER.

Itasca, Hill Co., Texas, June 6, 1886.

WELL PLEASED WITH OUR BEES.

I received the bees June 12th all right. I am much pleased with them. Many thanks for the extra frame and the amount of bees you sent. Your mode of shipping is all right. I am well pleased with the A B C book. I hope I may have success. To-day, June 18, they are working finely.

Woolwich, Pa., June 18, 1886.

F. T. RAHORN.

PERFECT SATISFACTION.

Your goods on both shipments came all right, and were of good quality. I could get them nearer; but I am so well pleased with my deal with you that I do not see the place to break off, and the goods give perfect satisfaction.

JOSEPH SWIFT.

State Center, Ia., June 11, 1886.

OUR TEN-CENT HONEY-KNIFE.

It may not be amiss to tell you that your little ten-cent honey-knife, which cost fifteen cents by mail (and none of my friends guessed a less price than 25 cents) proves itself a great convenience. It is little, if at all, inferior to the longer and more expensive patterns.

DAVID STRANG.

Lincoln, Tenn., June 22, 1886.

I think the California honey "takes the cake"—perfectly magnificent, but a great many don't like it.

J. M. JENKINS.

Wetumka, Elmore Co., Ala., June 17, 1886.

[Friend J., it is a little singular that we have so many reports just about like yours. A good many people think that California honey is "magnificent," as you say; but, strange to add, others don't like it; and, as you say, those who "don't like it" are "a great many."]

G. M. DOOLITTLE'S OPINION OF TERRY'S NEW BOOK.

Terry's "Winter Care of Horses and Cattle" is at hand. It is a book that should be in the hands of every person in the land. With many, the height of their ambition seems to be the largest numbers with the least attention; in others, a poor old horse—so poor you can count every rib 50 feet away, to push and snort through every day.

Borodino, N. Y.

G. M. DOOLITTLE.

GLEANINGS AS AN ADVERTISING MEDIUM.

I ordered a select tested queen of you, May 24. In eight days she was here, and in the hive. On the ninth day she was laying. That is business on time, I think, from North Carolina to Ohio. I am well pleased with the Buckeye window-sash lock. How was the candy made that was with the queen—all sugar, or not? When made of honey and sugar, do you dissolve the sugar in water, and how long does it take to cook it? I got into business by inserting an advertisement for black queens, in GLEANINGS. Orders came from all over the Northern States till I had to say stop. I am Italianizing all that are in reach of me; and as fast as I can find hybrid queens, the friends can have them.

W. P. DAVIS.

Goodman, Anson Co., N. C., June 12, 1886.

[The bee-candy is simply honey and powdered sugar made into a stiff dough. See A B C.]

TERRY'S NEW BOOK.

[The kind notices of this little volume are at hand by the hundred. We select the following from among them:]

"The Winter Care of Horses and Cattle," is the title of a pamphlet from the pen of T. B. Terry, "so well known as an able writer in the agricultural papers, as well as a 'live man' at our agricultural Institutes." This very humane and Christian work should be in the hands of every one who owns or drives a horse or provides for the wants of domestic cattle. The reading of the book will undoubtedly increase the number of merciful men and women, and assist largely in promoting righteousness in the earth. Every thing connected with the prosperous management of these animals,—the shelter, feeding, watering, etc., etc., is illustrated in the most careful manner.—*The Manifesto, Shaker Village, N. H.*

OUR HOMES.

What doth the Lord require of thee, but to do justly, and to love mercy, and to walk humbly with thy God?—MICAH 6: 8.

HAVE you ever wondered, dear friends, why it was necessary to have so much discussion in regard to the way a Christian ought to live? If all these things are really important, it would seem that one almost needs to have a theological education in order to be able to live a Christian life. Yet we know this is not so; for Jesus accepted and pardoned the lowliest and the humblest, and many of the most illiterate. Do we not sometimes make a mistake in encouraging the idea that it is a very hard thing, or a very difficult thing, to understand just how we should behave and act, to be followers of Christ? Is it not possible that we are troubling or worrying ourselves over things that are, after all, of no very great importance? In the verse just before the one containing our text the prophet asks, "Will the Lord be pleased with thousands of rams, or with ten thousand rivers of oil?" The answer is given in our text. The words before the text are these: "He hath showed thee, O man, what is good;" and then follow these simple little directions—"Do justly, love mercy, and walk humbly before God." Surely the veriest child among us knows how to do this; but suppose, for instance, he does not. Suppose the one who wants to be a Christian is so young or so ignorant, or that his former educational surroundings have been so faulty, that he has false ideas of justice—what then? Well, my opinion is that the *will* will be accepted in that great day for the deed. I am sure that no honest, penitent child will ever be cast out when he was doing the best he knew how. Perhaps no one will dispute this. If so, then the question comes up to all of us, Are *we* doing the best we know how? Did you ever think of the readiness with which the world in general answers this question? The inmates of our prisons almost invariably say, when you sit down beside them, and have a frank, friendly talk, that they have been doing the best they knew how. If they told the honest truth, it seems to me they ought to say, "I meant to do right, but I allowed myself to be prejudiced;" or, "My mind was so much taken up with something else that I did not give the matter the attention that I ought to have done." If he has the real genuine spirit of Christ in him, I should like to hear him add, "I have done wrong; and if you will tell me how I can right the wrong, I am ready to do it."

In our recent Sabbath-school lesson I have been greatly interested, or, rather, I have made it a point of study, to see if there is any chance for those who refused to accept Jesus, to make the plea that they were "honest doubters." When he opened the eyes of him that was blind from birth, the Pharisees were displeased. Instead of rejoicing that a prophet, or even a physician, was among them, with power to perform such cures as this, they objected and found

fault. First, they refused to believe that he was the man who sat and begged; and when he himself declared, "I am he," they were not satisfied. They sent for the parents and questioned them about it. But even the poor parents were so blinded and bigoted, or cowardly (I can not make out which), they were backward, and evaded the question by saying the young man was of age, and that he could answer for himself. Finally they began to find fault, and to say that this prophet was not of God, because he healed the man on the Sabbath day. The observance of the Sabbath day, according to their formula, was a matter of so much greater importance than giving sight to the blind that they ignored the miracle, and said, "This man is not of God, because he keepeth not the Sabbath day." Does it seem possible that men could become so bigoted and contrary as to use such reasoning as this? Long before this they complained that he did not observe the Sabbath day according to their code; but he answered them, "The Sabbath was made for man, and not man for the Sabbath." At that same time he healed the man with the withered hand; and we are told they were watching him, ready to take it up against him in case he should perform a miracle on the Sabbath day. He silenced them, however, by propounding a question which their own consciences would not permit them to answer untruthfully—"Is it not lawful to do good on the Sabbath days?" Geike, in his *Life of Christ*, tells us they had a law forbidding work on the Sabbath, unless it was to save life. According to such a code, suppose that a man had a toothache on Sunday, he must grin and bear it, for it would be breaking the Sabbath to go for a doctor or a dentist. And while we are on this matter of the Sabbath, are we not some of us in this nineteenth century in danger of making an idol of the Sabbath day, and bowing down to it as did the heathen in olden time to their senseless idols?

The question is before our nation just now—What shall we do on Sunday? I believe pretty nearly all agree that it should be a day of rest for man and beast. Many would go still further and add the word "recreation," making it a day of rest and recreation. If farmers who live in the country go to church on Sunday, they must use their horses; and there are some who say that, after their horses have worked hard during the week in plowing, or in haying and harvesting, they, too, ought to rest on the Sabbath. I am afraid that just a little of the leaven of the Pharisees is getting in here. Usually there are horses enough on the farm to take all the family to church, without being very heavily burdened; that is, where churches are at a moderate distance from our homes, as they always should be. If the horses are properly cared for during church time—put in comfortable sheds, for instance—I do not see why they can not rest as well as if left standing all day in the stables at home. In connection with this event Christ gave us a little text that has always been a comforting one to me. He said, "Wherefore it is lawful to do well on the Sabbath days." He said this in connection with the question

about a sheep, if it should fall into a pit on the Sabbath day. The first commandment is against idolatry. Did it ever occur to you, dear reader, that we may be in danger of worshipping the Sabbath in a senseless way? Jesus never laid down a law without sense. In heathen lands, where they are in the darkness of superstition, they have their "taboos;" that is, laws are laid down in a senseless way. Physicians used to doctor people by giving them the liver of a frog or a piece of a serpent's skin; a cold in the head was cured by kissing a mule's nose. Frogs boiled in vinegar cured the toothache. While enumerating these, I have wondered if there were not some tincture of this taboo of heathenism still lingering among us.

Now, there is nothing about religion and nothing in Christ's commands, that is, in any shape or manner, the slightest akin to such superstition. God surely never intended to lay stress on something that had not reason and sense back of it. God must be just, or he would not be God. Earthly rulers may put burdensome commands upon us, and may punish us for breaking such laws; but God the Father never did. Is it possible that a kind and just parent should ever lay down laws for his children, simply for the sake of punishing them when they break his laws? Surely not.

A few days ago we were led to believe that the Postoffice Department of the United States had purposely made a ruling that queen-bees might pass through the mails, and that the ruling was to be literally carried out. A queen could go, and nothing but a queen; not even a single worker to go along as company and to feed her. I said at once that I did not believe it possible that the men whom we have occupying high offices could for a moment intend any such ruling. If they did it would be something like this: Suppose our great men at Washington should meet together in making laws for Uncle Sam's subjects, and should discourse in this way: "Oh, yes! there is that miserable lot of bee-men who are petitioning for the privilege of sending queen-bees through the mails. Now we will just play a trick on them. We will make a ruling, permitting queen-bees only to pass through the mails, and then we will instruct the postmasters, through the Postal Guide, to refuse every cage that has a worker-bee in it. We will tell them to throw them out or hold them until they starve to death. We will destroy so much of their property in this way that they will never want to come to Washington again." Now, suppose they laughed and jeered, and had a big time of it, to think of the wail we would send up at the loss of our property. Are we under such rule as that? Why, to be sure, we are not. The idea is ridiculous. Ancient kings may have had the power, and possibly the inclination, to grind down and harass their subjects in this kind of a way. But *we* are a Christian nation; a just God rules over us; and the thought that God could lay down laws for us, his children, in any such way, is to me the worst kind of blasphemy. You will notice on page 537 some remarks in regard to this matter. To show you that my faith in

this government and its postoffice officials was not misplaced, I take pleasure in submitting the following:

POST OFFICE DEPARTMENT,
Office of the Gen'l Supt. of Ry Mail Service,
WASHINGTON, D. C., June 29, 1886.

A. J. Cook, Esq., *Agricultural College, Mich.*

SIR:—Yours of June 24th, regarding a modification of the postal regulations admitting queen-bees to the mails, has been received, and I am happy to inform you that this regulation will be so modified in the next monthly Postal Guide as to read, "Queen-bees with necessary attendants."

The question as to the dispatch of queen-bees to Canada has been referred to the Superintendent of Foreign Mails. Very respectfully,

JNO. JAMESON, *Genl. Supt.*

You will notice that it was a prompt reply to Prof. Cook's inquiry.

Here is another, sent to the Hon. Edwin Willits, President of the Agricultural College, Michigan, which is interesting to us, inasmuch as it also touches on the matter of sending queens to Canada. It was sent to me by the kindness of Prof. Cook:

POST OFFICE DEPARTMENT,
Office of the Gen'l Supt. of Ry Mail Service,
WASHINGTON, D. C., June 28, 1886.

Hon. Edwin Willits, *Agricultural College, Mich.*

SIR:—I have the honor to acknowledge receipt of yours of June 23d, regarding the admission of queen-bees to the mails *with attendants*, and I am pleased to be able to inform you that the regulation will be modified in the next monthly Postal Guide so as to read, "Queen-bees with necessary attendants."

In regard to forwarding queen-bees to Canada, this office, of course, has nothing to do. I see no objection to the postmaster at the mailing office receiving them for such dispatch; and if the Canadian authorities see fit to receive them, this office certainly has no objection. This question has been referred to the Superintendent of Foreign Mails.

Very respectfully,

JNO. JAMESON, *Genl. Supt.*

May God grant that peaceful and Christianlike relations may exist between Canada and the United States in the interchange of queen-bees, as well as in every thing else!

Now, friends, do you not see what a sad thing it is to lose faith in our own government? and this includes faith in those who occupy high official positions. And is it not, too, a thousand times sadder to lose faith, or to lack confidence in God, the great Father of us all? When we allow ourselves to believe for a moment that he has laid down laws for us that are not easily understood or comprehended, and that terrible judgments shall follow the consequences of even ignorant transgressions, do we not belittle ourselves, and forget the opening words of the prayer the Savior gave us—our Father who art in heaven? What is it, then, the Father wants of us? Why, simply what is expressed so plainly in our little text—do justly, love mercy, walk humbly before God. Very little question need arise in regard as to what is doing justly. Where a man is not straight and honest in deal, even a child, or one of no education, will detect it. How often we hear the words, "Is that fair or Christianlike?" and when the circumstance-

es are submitted, there is usually but very little difficulty in getting a unanimous reply. If it is a question that involves complications, settle it by arbitration. Let each party tell his story, and then let some good man or woman decide whether it is fair or Christianlike.

Now, in regard to the second command laid down in our text—love mercy. Is there any difficulty in understanding what the prophet means by this? Of late I have been linking this word mercy with Christ's words I have spoken about it, bidding us to do good on the Sabbath; also, "A merciful man is merciful to his beast." I like to go around on Sunday morning, and see that the chickens have every thing pleasant and comfortable. I love to caress the mothers that have lots of chickens. One of my Brahmas finally hatched 13 out of 14. She is only half Brahma, and so she is not so clumsy and awkward. She used to be very shy, but now we are excellent friends. I love to make friends with the horses Sunday morning too. Then I love to fill the big stone watering-trough in front of the factory, so all the horses that pass by during the day may have a drink. Yes, I love to see the bees sipping the water down by the brook.

A few days ago a man with a big team passed by our watering-trough. The horses quickened up at the sight of the water, and by the motion of their lips showed how thirsty they were. But he yelled at them to go on, and hit them with the whip. Their ears dropped back, and they looked disappointed and weary. The thought occurred to me of trying to make him stop and water those horses; and it was not until after he had got quite a distance past that I remembered that I was President of the Society for the Prevention of Cruelty to Animals, for the town of Medina. I am afraid I am a rather poor president. Of course, it is of more importance to look out for suffering humanity, rather than for the suffering domestic animals; but in our locality humanity seems to be so well cared for, especially as far as food and drink and clothing are concerned, that I have not thought so much about it.

Now we come to the last clause of our text. What is it to walk humbly before God? Well, I think almost any child might answer this question. The friend in jail told me recently that he had nothing to thank God for in the way of giving him an existence. He said he had never felt it to be a favor, and that God could take away his existence as soon as he chose—the sooner the better. This surely is not walking humbly before God. Walking humbly before God is, as I understand it, letting God rule—thy will, not mine be done. You may say, if you choose, "I can not just see why God put me here in this world to endure pain, affliction, and sorrow; but as I am here, and by his order, I am going to say, 'Praised be his holy name.' I am going to obey him so far as I know how, and I am going to make the best use I can of the powers he has given me. I am going to strive to honor and glorify him in all that I am and all that I do. I am going to let thoughts of

him come first and foremost, and in place of every thing else. I am going to strive against selfishness and pride; against stubbornness and ill temper. I am going to be his child, and he is to be now and evermore my Father."

When I was studying the subject of becoming a Christian, years ago, I went to the pastor of the church where we usually attended. I had got it into my head that, to become a Christian, I should have to debar myself from many things, and must become cramped, or under bondage, as it were, to fixed rules and laws. To my surprise, he stated that most of the things I mentioned were more matter of opinion than any thing laid down by church creed or by the Bible; and in reply to my questions he stated the few essential things needed.

"Why, Mr. Reed, is it really true that this is all that is required?"

"It is all, as I understand it, Mr. Root."

I can not remember now, but I think the conditions he mentioned were pretty much the same as our text to-day—do justly, love mercy, walk humbly with God. As I started to go home, after having knelt with him in prayer, and promised before God to do the best I knew how to follow Christ, it seemed as if the greatest freedom and liberty that I had ever known before was spread out before me. All the barriers were removed from every thing that I wanted to do; for I was, once in my life, free from the bondage of sin, and walking in the broad sunshine of God's great love to his children.

OUR OWN APIARY.

REVERSIBLE FRAMES; ROBBING, AND HOW TO PREVENT, ETC.

OUR reversible wire Simplicity frames are still giving us excellent satisfaction; and the more the boys use them the better they like them. As I now see the advantages to be derived from their use, I wish all our frames were reversible. I do dislike to see combs built within a half-inch or so from the bottom-bar, or holes eaten around the lower end of the brace-wires. Such combs not only look badly, but are more liable to make the top-bar sag, unless a folded tin bar is used for a brace. They give us less space for brood and honey, and are more liable to break down during shipment than where combs are built out solid, as is accomplished by reversing. We now have secured some beautiful solid sheets of combs by it. Said combs look as if they might stand shipment without a single wire, though I hardly think it would be policy to ship them thus. However, it does seem to me that when combs are reversed they will need less feet of wire to the frame.

In the present issue, Mr. Heddon is of the opinion that, were we to try his reversible L. frame on a large scale, we would like it better. While his frame would reverse a little quicker, perhaps, I should have this objection to it; namely, that it has the wood corners, which I never liked in any frame. I suppose the ordinary tin corner could be attached to the Heddon L. reversible frame. If I can get to it I mean to try a few of these frames made on

his plan for experiment, though I hardly see how any thing could be simpler than our reversible corners, or less liable to come in contact with brace-combs or prpbolis.

DOOLITTLE'S METHOD OF FORMING NUCLEI.

Further experiments upon the Doolittle plan of forming nuclei have not been so favorable. In fact, many of the *old* bees in that nucleus (see p. 551) which I thought were successfully domiciled in their new quarters have since disappeared, and I suppose went back to their old quarters. Another nucleus was formed in exactly the same way, as recorded on page 551. When the bees were removed from the cellar, and put into the hive the following morning, their weight was two pounds and a quarter. On the morning of the second day the bees were shaken into a cage, and weighed. The result showed that the nucleus had lost a pound and a half of bees. Surely a part, at least, of these bees must have gone back to their old location. On looking into the hive afterward, although their numbers seemed depleted somewhat, I should hardly have supposed, judging from the looks only, that they had suffered such a loss. Some of the old ragged-winged bees were there, and are still there, showing that these old bees do not always go back, though it would appear that a large majority do.

I conclude, then, that, to correctly report upon the Doolittle plan of forming nuclei, the bees must be weighed before and after being moved. Had I done so in the first experiment, the results might have been similar to the last. The plan works nicely for introducing queens; that is, so far as tried; but from my present experience I should say that nearly half of the bees go back to their old location. Perhaps friend Doolittle can inform me why I have seemingly failed upon further experiments.

I will say this much, however: In experiments which we have made in forming nuclei in the ordinary way (i. e., taking frames and adhering bees from several different hives and uniting them into one swarm in a new location) we found that not a single ragged-winged bee would stay, though at least half the bees of the new-made swarm were of this latter class. With Doolittle's plan we did succeed in making a few, at least, of these old fellows stay at their new location.

ROBBING—A CAUTION TO BEGINNERS.

Our honey season has stopped suddenly off with us, and, in consequence, the bees are a little inclined to be cross, and rob. As many of our colonies are nuclei, we have to exercise extra precaution when opening and examining into the same. We are contracting the entrances of all such, and the boys are keeping a close watch of the whole apiary besides. When bees once get started to robbing badly at this time of the year we do not recover from the effects of it for the whole season; that is, when the little scamps have once learned the trick of thieving they do not seem to forget it soon. Beginners especially, need to be careful.

PUTTING A PANE OF GLASS IN FRONT OF THE ENTRANCE WHEN ROBBING HAS COMMENCED.

Seeing it recommended in the *British Bee-Journal* of the last issue, that an ordinary pane of glass placed in front of the entrance of a robbed colony would stop robbing, I determined to try the plan on some nuclei where a few straggling robbers were trying to gain entrance. These nuclei had just been opened, and, as usual just at this time of the

year, robber-bees were around; and when the hives were closed they would pounce down upon the entrances, where the little lovers of home met them in hand-to-hand fight. Panes of glass were leaned against the front of two or three of the hives. The result was quite satisfactory; the robbers would either bump their heads against the glass, or, seeing their own image reflected against them, appeared to think that they were met by their enemies on the wing. Not many of them had sense enough to go around the edges of the glass; and the few that did, finding themselves inclosed, buzzed up and down the pane of glass on the inside, and finally dropped in front of the entrance. Here the inhabitants made short work of them. Very soon the robbers came to regard that entrance with evil forebodings; and when the glass was taken away they did not seem to know the difference. As to whether the glass will stop a bad case of robbing at the entrance when the inmates of the hive have given up in despair, I have my doubts; though the plan, if taken in time, might prevent robbing in a great many cases. ERNEST.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: \$1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, JULY 15, 1886.

If any man walk in the day, he stumbleth not.—JOHN 11: 9.

THE FAVORITE PACKAGE FOR 100 LBS. OF EXTRACTED HONEY.

The new square tin honey-cans are having quite a boom, and we are glad to see them going off thus, because we believe it is the best package for storing and shipping extracted honey we ever offered for the money, and we feel assured they will take well. If you haven't seen them, send 90 cts. and we will send you a pair of the cans, boxed, ready for shipment. As many of you have large quantities of extracted honey, it is time for you to be thinking of putting it in some suitable package.

CARNIOLANS AND THEIR MARKINGS.

I FIND that I made an error in a recent issue, stating that Carniolan worker-bees from our best queen received from Frank Benton were some of them yellow-banded. One of them produced part Carniolan workers and part workers having some of the yellow bands. We thought last fall the other Carniolan queen did the same thing; but at present we find no yellow-banded bees among the young bees just hatching out. There are Italian workers through the colony, but these probably came from adjoining hives. I am very glad to make this correction. The progeny of this Carniolan queen are, however, so near like common black bees that, when these common bees are flitting about the hive, trying to rob, we find it very difficult to tell one from the other.

REDUCTION IN THE PRICE OF SECTIONS DURING THE FALL OF 1886.

FOR the benefit of the prudent ones who may wish to purchase their sections this fall for next season's use, we have concluded to name the following very low prices for large orders; viz.: Regular Simplicity sections, \$4.00 per 1000; 10 or more thousand, \$3.50 per 1000; 100,000 or more, \$3.25 per 1000. This will give supply-dealers a chance to be fully prepared for next season's orders, and will also give them a good fair margin for handling and paying interest on their money. We are also prepared to give low figures on almost every thing else to be ordered between now and the first of January for next season's use. We do this in order that we may keep our regular hands, instead of dropping them until business shall commence again. I would say, however, this reduction in the price of sections applies *only* to regular one-pound *one-piece* $4\frac{1}{4} \times 4\frac{1}{4}$ sections. One-pound four-piece sections, either dovetailed or nailed, will remain at the old price, \$4.50 per 1000. Odd sizes, up to 66 cubic inches, \$5.00 per 1000. No order taken for less than 500 of an odd size.

A WHOLE YEAR OF GLEANINGS FOR ONLY 15 CENTS.

In looking over our stock of back numbers of GLEANINGS we discover that we have about a thousand bound volumes for the year 1876 still left. Each volume is securely bound with two brass clasps, and a complete index makes the whole convenient for reference. To reduce this stock we have concluded to dispose of them to our customers for the very low price of 15 cts. each, or 10 cts. additional when sent by mail. In this year you will find articles from the pens of Langstroth, Katie Grimm, Adam Grimm (who, with the money he made of his bees, established a bank), and a host of others whose active brains still live in the pages of these back numbers. On page 52 of this volume is an article written by "Novice," when he had the bee-fever, telling "How to Do Every Thing that Needs to Be Done with a Colony of Bees." In short, it is the A B C of bee culture in a nutshell. This article alone will be well worth the price asked for the whole volume to the beginner, as it covers all the questions that he would be likely to ask. On page 274 is described, by the aid of diagrams, how to make the chaff hive. All through the whole volume "Our Own Apiary" is full of practical hints.

RUBBER STAMPS FOR PUTTING THE NAME OF THE PRODUCER UPON SECTIONS OF HONEY.

Now that the honey season is about over, and the comb honey ready to come off, our friends will need some ready means of labeling their section honey. We keep and advertise labels suitable for the purpose; but the chief objection to this method of marking honey is the labor involved. Moreover, the producer could hardly afford to paste labels upon a ton of section honey, and a label pasted upon the clean white surface of a section does not, to our notion, really add to its appearance, although it will "set off" honey in jars or pails, and comb honey in pasteboard boxes. To meet the requirements of some cheap and rapid means of marking sections, the manufacturers of rubber stamps have made for our trade some very pretty designs of their work expressly for stamping the surface of

sections. What can be more neat and tasty than the producer's card artistically lettered in red ink, stamped right upon the clean white surface of the basswood section itself? The freshness of the wood marked in this way produces an effect that can not be accomplished with paper and paste; moreover, the producer's card upon every section is a guarantee of itself that the honey is pure; and when the honey is extra fine, the consumer, whether he purchases much or little, knows right where he can obtain more of the same brand—a means of advertising of no small consequence. Why, I believe I should like the fun of stamping my name upon some of my own honey that I was choice of. We can furnish you a stamp of this description, packed in a neat tin box, necessary pads, and ink included, for \$2.00, postpaid, or the same a little fancier, for \$2.50. Send for our rubber-stamp circular, free on application, and you can then pick out the design you want.

THOMAS HORN, OF SHERBURNE, N. Y.

THE first advertisement sent us by this individual appeared in our issue for Aug. 1, 1885. He there offered very low prices on queens, in order to introduce his strain of bright Italians. A sample nucleus was sent us some time last fall, to let us see what we thought of his bees. Of course, they were very fair; and as his postmaster and banker seemed to consider him an energetic, go-ahead man, we continued his advertisement until June 1, of this year. At that time we declined inserting it any longer until he had straightened up complaints. Of course, Mr. Horn might have had so many orders that he was unable to fill them all; but with many orders, of course comes much money; and he certainly should have returned the money when he found himself unable to fill the orders—at least, so to seems to me. The operation seems to be a good deal of a repetition of the Herbert A. Burch swindle. If I am doing Mr. Horn an injustice, I stand ready to correct it any minute when he returns the money or fills the orders. Filling orders (for which cash was sent before the honey season opened) after the honey-flow is past, is not, of course, exactly the thing for a straight man to do; but I presume most of his customers would be glad to get even that, if they can't get the money. In justice to him, I would say that many orders have been filled after a long delay. In a few cases he has sent more than the money's worth. The question naturally arises, Is he responsible, and can these small sums be collected of him? So far as we have been able to gather, I think he is not—at least he allows his accepted drafts to go by without scruple. These operations have not been on any thing like the scale of Mr. Burch; that is, no very large sums of money have been sent him, so far as I can discover. When we accepted his advertisement he was considered a good square man; and whether this has all been a scheme of his from the outset, or whether he has used money belonging to others injudiciously, may be hard to say. At any rate, if he values his reputation we offer him every possible chance to regain it. The plea made by a few, that one may be swamped by reason of having *too much* business, is, I believe, recognized as being a rather thin excuse for neither sending back the money nor filling orders. Not a word has been heard from him since the telegram given in our editorial last month, on this matter.



POPULAR GARDENING

A HOME JOURNAL
FOR THE MILLION

FOR EVERY LOVER OF
FLOWERS, POT-PLANTS, BOTANY,
FINE LAWNS, TREES, SHRUBS,
GOOD FRUIT AND VEGETABLES.

MONEY IN THE GARDEN.

BRIGHT-CONCISE-ABLE

It tells how. No long, dry
articles. Meaty as an Apple;
spicy as a
Pink-hand.

some as a Rose. Distinct in style. So
readable that even children crave it.
The best. The cheapest. Sample copy 6
cents. A surprise to all. We make this
liberal Trial offer that EVERY AMERI-
CAN FAMILY may at once know the
paper. Stamps accepted. Address
Popular Gard'ng Pub. Co., Buffalo, N.Y.

**ON
TRIAL
3 MONTHS
15 CTS.**



SURE TO SEND

FOR MY NEW

PRICE LIST FOR 1886,

Before purchasing your Bee-Sup-
plies. Cash paid for Beeswax. 7tfdb

A. B. HOWE, Council Bluffs, Ia.

LOOK HERE! To any one wishing to purchase
nice Italian bees I will furnish
them, during the month of July, for 50 cts. per
pound. Tested queens, \$1.00 each; all queens rear-
ed from cells built under the swarming impulse.
In all cases, cash must accompany order.
13-14 A. G. BRUSH, Susquehanna, Pa.

FLORIDA PALMETTO FANS,

By mail, postpaid, 75 cts. Send money by registered
mail. W. H. STEACY, BOX 20, THENOTOSASSA, FLA. 13-14d

ITALIAN BEES IN IOWA.

60c to 85c per lb. Queens, 30c to \$1.75, according
to kind and time. Also bee-supplies and honey. Or-
der from free circular. "How to Raise Comb
Honey," an illustrated pamphlet, just out, price
5 cents. Address OLIVER FOSTER,
13tfdb Mt. Vernon, Linn Co., Iowa.

CHEAP!

Full colonies in Simplicity hives, and honey
enough to winter, for only \$4.50. Will ship last of
July. DAN WHITE,
11tfdb NEW LONDON, HURON CO., OHIO.

FIRST IN THE FIELD!!

The Invertible Bee-Hive

Invertible Frames,

INVERTIBLE SURPLUS - CASES,

TOP, BOTTOM, AND

ENTRANCE FEEDERS.

Catalogues Free. Address

J. M. SHUCK, DES MOINES, IOWA.

4-3db

CARNIOLAN * QUEENS.

Fertilized in my apiary of 100 colonies Carniolan
bees. Untested queens, safe arrival guaranteed,
\$1.00 each; six, \$5.00.

DR. S. W. MORRISON,
Oxford, Chester Co., Pa.

13tfdb

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.

2tfdb JNO. VANDERVORT, Laceyville, Pa.

For Sale. COLONIES, NUCLEI, and QUEENS, AT LOWEST PRICES.

11-16db

GEO. D. RAUDENBUSH, READING, Pa.

DO YOU EAT CANDY?

Send \$1.25, and I will express 5 lbs. of Todd's Honey
Candies, same as made a sensation at last Pennsyl-
vania State Fair. Remember, every pound sold
helps the honey-trade. Special rates for quantities
for fairs. Dadant Foundation always in stock at
market prices. Bees, Queens, Hives, Smokers. Vol.
I of Frank Cheshire's new book mailed free, \$2.50.
914db ARTHUR TODD, 1910 Germantown Ave., Philadelphia, Pa.

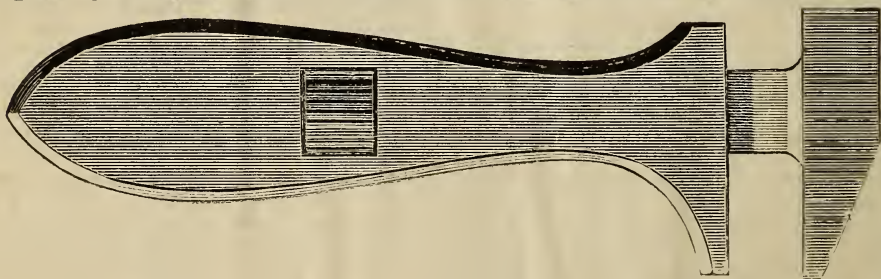
KENTUCKY QUEENS. Italians, Holy-Land, and Albinoes. Test-

ed, \$2.00; untested, \$1.00 each. Bees, 75c per pound
after 15th July. PELHAM & WILLIAMS,

13-16db

Maysville, Ky.

OUR TEN-CENT ADJUSTABLE WRENCH



The above cut gives the exact size of this very convenient tool, for the very insignificant price of only
10 cents. If wanted by mail, 6 cts. extra for postage. One of these wrenches in your pocket will often-
times save you the cost of one in a single day. Who has not had to stop a plow, cultivator, or, possibly,
some more complicated piece of machinery, while he went to the tool-house or somewhere else for an ad-
justable wrench? A good many times two wrenches are needed—one to hold the square head of a bolt
from turning while you turn the nut. In such a case these little fellows will do just as well as a larger
one. It is true, they are not strong enough for heavy work; but if you break them, why, you are only 10
cents out, after all.

A. I. ROOT, Medina, Ohio.

HARRINGTON'S AD. BEES CHEAP!

I have the finest lot of Queens and Bees I have ever raised in my 13 years' experience, and should like to have everybody see them. I will sell at following low prices:

SELECT TESTED (VERY FINE) \$2.00
TESTED - - - - - 1.00

My Queens are nearly all mated with drones from an imported Italian Queen. Half-blood Holy-Lands, Cyprians, and Albino, at same price.

H. B. HARRINGTON,
May 26, 1886. Medina, O.

OHIO WESLEYAN UNIVERSITY

DELAWARE, OHIO. One of the great Colleges of this country, offers to both sexes, at surprisingly small expense, unsurpassed advantages for a full College Course or for Special Studies. Collegiate, Preparatory, Normal, Commercial and Art Departments. **First-class Conservatory of Music.** Elegant home for ladies with teachers. **Necessary expense for a term, only \$50 or less.** Catalogue free. C. H. PAYNE, LL. D., President.

PURE ITALIAN QUEENS.

100 READY EVERY 30 DAYS.

Untested at 75 cents; 10 for \$7.00. Tested queens, \$2.00 each. All bred from a selected imported mother. Cells raised in full colonies. 10tfdb D. G. EDMISTON, ADRIAN, LEN. CO., MICH.

SEE WHAT THIS IS.

Two-frame nuclei of the finest strain of Italian bees; combs full of brood, strong in bees, with an extra select tested queen, for \$2.50. Three frames, \$3.00, or two for \$5.00. The frames are L. size. Satisfaction guaranteed. J. A. BUCHANAN, 12tfdb Holliday's Cove, Hancock Co., W. Va.

ITALIAN * QUEENS.

Very choice tested, \$2.00 | Choice untested, \$1.00
Circular free. WALT S. POWDER,
13tfdb Groesbeck, Hamilton Co., Ohio.

QUEENS.

I have them, bred from a best selected queen of Root's importation, 90 cts. each; 6 for \$4.50. I can give all orders immediate attention, and ship by return mail. Send postal for dozen rates. 10tfdb B. T. BLEASDALE,
596 Woodland Ave., Cleveland, Ohio.

ITALIAN QUEENS. Untested, 75c.; six, \$4.00. Tested, \$1.50. Write for price list of bees, fdn., etc. 13-15db JNO. NEBEL & SON, High Hill, Mo.

F. HOLTKE'S 3-FRAME NUCLEI, WITH \$1.00 QUEEN, FOR ONLY \$2.00!

Three-frame nuclei, with \$1.00 queen, from 15th of May on, \$2.00. Combs built in Simplicity frames, and well stocked with bees and brood. 13tfdb Fred'k Holtke, Carlstadt, Bergen Co., N. J.

ITALIAN BEES FOR SALE.

7 strong colonies in Kidder hives; frames 10 $\frac{1}{4}$ x 11 $\frac{1}{4}$ inches, at only \$5.00 per colony. Address 13-14d W. J. HILLMAN, Green River, Wind. Co., Vt.

By Return Mail.

Select tested queens, each, - - - - - \$1 50
Warranted queens, " " " " " 75
" " " " " per doz., - - - - - 8 00
Strong 3-frame nuclei, L. frames, each, - - - 2 50
Address JAMES WOOD,
12-15db No. Prescott, Mass.

ITALIAN QUEENS

TESTED, \$2.00; UNTESTED, \$1.00.

MISS A. M. TAYLOR,
12tfdb MULBERRY GROVE, BOND CO., ILL.

1880. 1886. Headquarters in the North.

Steam factory, fully equipped, running exclusively on **BEE-KEEPERS' SUPPLIES.** White-poplar and basswood one-piece and dovetailed sections. Vandervort thin foundation. Send for free samples and illustrated price list. 10-15db A. D. D. WOOD,
Rives Junction, Jackson Co., Mich.

MUTH'S HONEY-EXTRACTOR, SQUARE GLASS HONEY-JARS, TIN BUCKETS, BEE-HIVES, HONEY-SECTIONS, &c., &c. PERFECTION COLD-BLAST SMOKERS.

Apply to CHAS. F. MUTH & SON,
CINCINNATI, O.
P. S.—Send 10-cent stamp for "Practical Hints to Bee-Keepers." 1tfdb

NOW READY. ITALIAN QUEENS.

1 queen, \$1.00; 2, \$1.80; 3, \$2.50; 5, \$3.75. Bees by the pound, nucleus, and colony. 13-15db L. T. HOPKINS, Conway, Franklin Co., Mass.

A. J. KING'S New Circular of **CARNIOLAN, A. SYRIAN, and ITALIAN QUEENS,** etc., will be SENT FREE on application. Address 13tfdb A. J. KING, 51 Barclay St., New York.

ITALIAN CARNIOLAN QUEENS.



Bred in separate apiaries, away from other bees. Warranted Italian or untested Carniolan queens, in May, \$1.25; 6, \$6.75; June, \$1.10; 6, \$5.90; July, \$1; 6, \$5. State which you prefer, Italians bred from my *Bellinzona strain*, or *Golden Italians*. I am prepared to please all.

BEES AT REDUCED RATES.

For full particulars, and prices of tested queens, bees, etc., send for circular and price list. Satisfaction guaranteed. CHAS. D. DUVAL,
9tfdb Spencerville, Mont. Co., Md.

GOOD NEWS FOR DIXIE! SIMPLICITY HIVES,

Sections, Extractors, Smokers, Separators, &c., of Root's Manufacture, Shipped from here at **ROOT'S PRICES.**

Also S. hives of Southern yellow pine, and Bee-Keepers' Supplies in general. Price List Free. J. M. JENKINS, WETUMPKA, ALABAMA.
3-24db

WE WILL SELL

Chaff hives complete, with lower frames, for \$2.50; in flat, \$1.50. A liberal discount by the quantity. Simplicity hives, Section Boxes, Comb Fdn., and other Supplies, at a great reduction. We have new machinery, and an enlarged shop. **Italian Bees and Queens.** Send for Price List. 23-22db A. F. STAUFFER & CO., Sterling, Ills.

QUEENS, 1886. UNTESTED,
From select imported mother. After May 15, \$1.00. Wax worked into fdn. for a share, or by the pound. Satisfaction guaranteed. THOS. & BENJ. YOUNG.
10-15db LA SALLE, LA SALLE CO., ILL.

EXCHANGE DEPARTMENT.

Notices will be inserted under this head at one-half our usual rates. All ads intended for this department must not exceed 5 lines, and you must say you want your ad in this department, or we will not be responsible for any error. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates.

WANTED.—To exchange 20,000 strawberry-plants, Crescent Seedling, Cumberland Triumph, Sharpless, and Glendale, 75 cts. per 100; \$4.00 per 1030, for bees, foundation, or improved poultry. 10tfdb W. J. HESSER, Plattsmouth, Neb.

WANTED.—To sell, after June 1st, 50 3-frame L. size nucleus colonies of hybrid bees, with queens, for \$3.50 each, delivered at Plattsmouth, Neb., or I will exchange for young stock, cattle or horses, or apianian supplies. 12tfdb J. M. YOUNG, Rock Bluff, Cass Co., Neb.

WANTED.—To sell or exchange a farm, 160 acres; good buildings, good soil, good title. All under fence. For sale at a fair price. Address 12tfdb W. B. BROWN, Spirit Lake, Dickinson Co., Ia.

WANTED.—To exchange Italian bees in three-frame nucleus with queen, at \$3.50 each. for fdn., brood size, 8x16½. Also young queens at \$1.00 each. 13-14d M. ISBELL, Norwich, N. Y.

FOR SALE or exchange, White English Rabbits. Choice stock very low, now; also P. ducks and poultry cuts for sale cheap. 13-14d O. L. COVER, Covington, Ohio.

WANTED.—To exchange bees in Root's Simp. or chaff hives, or a saw-table with \$7.00 mandrel, suitable for power, for a Barnes foot-power circular saw, or will sell cheap for cash. 13-16db M. LUTTMAN, Hannibal, Monroe Co., Ohio.

FOR SALE.—Italian Bees and brood. Queens bred from imported mothers. Or I will exchange for supplies at a bargain. 13tfdb C. F. UHL, Millersburg, Ohio.

WANTED.—A partner to take half-interest in an Apiary, with a little capital. Address LOUIS WERNER, Edwardsville, Ill.

WANTED.—To exchange nursery stock for Italian queens and fdn. I have 20 varieties of apples, 10 of plums, and a full line of peaches. Also 3 new apples that received the premium at the Illinois State Fair last fall—the Minkler. Redden's Seedling, and Sparks. 14d GEORGE GOULD, Villa Ridge, Ill.

WANTED.—To exchange queens and bees by the pound for fdn. for wired L. frames. MISS A. M. TAYLOR, Mulberry Grove, Bond Co., Ill. 14d

FOR SALE.—Pasteboard boxes for inclosing section honey. The best out! Improved over last year. Thousands sold! Price, 1-lb. size, \$6.00; 2-lb., \$8.00 per 1000. One sample, 5c. 14-oz. square glass jars, \$5.00 per gross; 1½ gals. in case. Fine assortment of honey labels. Catalogue free. 14-17db A. O. CRAWFORD, S. Weymouth, Mass.

WANTED.—To exchange pure Wyandott cockerels for tested Italian queens or offers. 14tfdb M. W. SHEPHERD, Rochester, Lorain Co., Ohio.

QUEENS at reduced prices. | *Casey, Ill., July 6, 1886.* Mr. Wilson:—Send me 6 queens. I have tried several breeders, and your queens are as good as can be found in this country. D. R. ROSEBROUGH. Warranted queens, 75c each; \$8.00 per doz.; 2 doz. for \$15.00. Will exchange for honey. J. T. WILSON, Nicholasville, Ky.

WANTED.—To exchange Italian queens and bees for improved poultry, Simp. hives in flat, strawberry-plants, tools, printing-press, or offers. Price list free. 14d J. P. MOORE, Morgan, Ky.

WANTED.—To exchange full colonies Italian bees for bicycle, 32 or 34 inch, or first-class breech-loading shot-gun, 10 or 12 bore. D. S. BASSETT, Farnumsville, Worcester Co., Mass.

WANTED.—To exchange bees or queens for foot-power saw. Will sell fine tested queens for \$1 each; untested, 70 cts. each, either Syrian or Italians. ISRAEL GOOD, Sparta, Tenn.

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is often times quite an accommodation to those who can not afford higher-priced ones.

I have some Italian hybrid queens that I will mail at 30c each, and guarantee safe arrival.

N. A. KNAPP, Rochester, Lorain Co., Ohio.

24 hybrid and mismated queens for 40 cts. each; 3 for \$1.00; also a few untested and tested queens, rather small, but good layers, at same price. Safe arrival guaranteed. S. C. PERRY.

Portland, Ionia Co., Mich.

Good serviceable hybrid queens, one year old, for 25c each. Ready now. J. H. JOHNSON.

Middaghs, Northampton Co., Pa.

I should be glad to sell what black queens I have for 25c., and hybrids for 50; ready now.

ADOLPHUS NEWTON, Plymouth, N. Y.

Wishing to Italianize my whole apiary I have a few hybrid queens for sale at 25 cts. each. They are all prolific, and the workers gentle and good.

WM. H. HUSE, Manchester, N. H.

HYBRIDS AT \$3.00 PER COLONY.

Must be sold prior to Aug. 25th, 25 colonies of bees, in frame hives; plenty of honey to winter, only \$3.00 each. I am going to Pacific Coast. 14-15d Address H. H. WINSLOW, Liberty, Clay Co., Mo.

ITALIAN QUEENS, by Return Mail, Tested, \$1.00. Untested, 75 cts. Bees, 50 cts. per lb. 14-15d GEORGE STUCKMAN, Nappanee, Ind.

Stop! Read This!

12 warranted Italian queens, by return mail, for \$8.00; 6 for \$4.25. Single queens, 75 cts., after Aug. 1. Carniolan queens at double the above price. See our advertisement on another page.

J. B. MASON & SONS,

14d Mechanic Falls, Me.

CELERY-PLANTS.

Crawford's Half-Dwarf, Boston Market, etc., 150 choice plants, carefully packed in a box and mailed prepaid for \$1.00; 1000 for \$4.00. Safe arrival guaranteed, even to California and Oregon. By express (not prepaid) just half above rates.

A. T. COOK, Clinton Hollow, Dutchess Co., N. Y.

BEE-VEILS.

WHEN the honey stops coming in, perhaps some of you will need a good bee-veil. We can furnish you a well-made veil of grenadine, with a face of Brussels netting, for only 50 cts. postpaid; 10 for \$4.00. Our former price on a veil with a facing of Brussels netting has been 75 cts.

A. I. ROOT, Medina, Ohio.

DR. J. W. CRENSHAW, Versailles, Woodford Co., Ky., has untested Italian queens for sale at 75 cents each. 14-15d

\$2.50 CHEAP \$2.50

I will sell three-frame (Simp. size) nucleus colonies, all straight worker-comb, well-filled with brood and honey, 1 pound of Italian bees, and nice tested Italian queen, for only \$2.50. Now, friends, I guarantee these colonies to be first-class in every respect. Fifty colonies ready now. A fine lot of untested queens at 75 cts.; \$4.00 per ½ doz., and tested at \$1.00; \$5.50 per ½ doz. Safe arrival and satisfaction guaranteed. F. W. MOATS,

14d The Bend, Defiance Co., Ohio.

GLEANINGS IN BEE CULTURE.

Books for Bee-Keepers and Others.

Any of these books on which postage is not given will be forwarded by mail, *postpaid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment, if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them for sale, it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage shall not be disappointed, and therefore I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a *; those I especially approve, **; those that are not up to times, †; books that contain but little matter for the price, large type, and much space between the lines, ‡; foreign, §.

BOOKS ESPECIALLY FOR BEE-KEEPERS.

As many of the bee-books are sent with other goods by freight or express, incurring no postage, we give prices separately. You will notice, that you can judge of the size of the books very well, by the amount required for postage on each.

Postage.] [Price without postage.	
12 A B C of Bee Culture** Paper.....	88
15 A B C of Bee Culture** Cloth.....	1 10
6 A Year Among the Bees, by C. C. Miller.....	75
6 Bee-Keeper's Text Book* Revised, Cloth.....	94
10 Cook's New Manual ** Cloth.....	1 15
2 Dzierzon Theory**.....	10
1 Extracted Honey, Dadant*.....	14
1 Honey as Food and Medicine.....	5
10 Langstroth on the Hive and Honey-Bee***	1 90
10 Quinby's New Bee-Keeping**.....	1 40
10 Queen-Rearing, by H. Alley*.....	90
10 Success in Bee Culture, by James Heddon.....	50
4 "Blessed Bees" ‡: A fascinating book, but it is fiction and not facts. Putnam's Sons..	75
10 Fuller's Grape Culturist**.....	1 40
The Apiary; or, Bees, Bee-Hives, and Bee Culture, by Geo. Neighbour & Sons, England*§	
1 British Bee-Keeper's Guide - Book, by Thos. Wm. Cowan, Esq., England*§.....	40

BIBLES, HYMN-BOOKS, AND OTHER GOOD BOOKS.

8 Bible, <i>good print</i> , neatly bound.....	25
10 Bunyan's Pilgrim's Progress**.....	50
3 "Dose of Truth," for tobacco users.....	20
1 Ester Ried**.....	1 25
32 Fables and Allegories. The most beautiful piece of work in the way of a book that I have ever sold, and I do not know but it is the handsomest book I ever saw. It is a large-sized book of 312 pages, full of engravings of surpassing beauty. The paper and printing are probably equal to any thing in the way of a book now in the market. Our readers may ask, "What are the fables and allegories about?" Well, they are about you and me. As an illustration, in the center of the book you will find the fable of the Lantern people, which I gave on p. 345, May 15, 1885. I copied the story, but I did not have the wonderful pictures that the author has in this book. The book is written by the author of the Story of the Bible. There is but one fault to find with it; that is, it costs \$2.00. However, if any of you want a book worth \$2.00, every cent of it, you will find it in this book of fables and allegories. It will make you cry, if you don't look out; and the best of it is, that the chances are very great for you will be better after you have cried. I never saw any thing in my life, nicer for a Christmas present, or if you want a beautiful book to put on the center-table of your best room, you can not find a handsomer one for the money. Perhaps I am saying a good deal; but if you do not agree with me after you have seen the book, you can send it back and have your money returned. They are so large and heavy that the postage on them is 32 c. extra. We can sell two books for \$1.75 each; three for \$1.65 each; five or more, \$1.60 each.	

6 | First Steps for Little Feet. By the author of the Story of the Bible. A better book for young children can not be found in the whole round of literature, and at the same time there can hardly be found a more attractive book. Beautifully bound, and fully illustrated. Price 50c. Two copies will be sold for 75 cents. Postage six cents.

5 Harmony of the Gospels.....	35
3 John Ploughman's Talks and Pictures, by Rev. C. H. Spurgeon*.....	10
2 Moody and Sankey's Gospel Hymns, words only, No. I. or No. IV., paper.....	05
3 Same, board.....	10
5 Same, words and music, board.....	30
5 Same, Nos. I., II., III., and IV., combined, words only, board.....	20
10 Same, words and music, board.....	75
3 New Testament in pretty flexible covers.....	05
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5 Robinson Crusoe, paper cover.....	20
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A large book of 700 pages, and 274 illustrations. Will be read by almost every child.

4 The Christian's Secret of a Happy Life**.....	25
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10 Garden and Farm Topics, Henderson**.....	1 00
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10 Household Conveniences.....	1 40
20 How the Farm Pays, by Peter Henderson and William Crozier. A book of 400 pages, full of pictures of all the late improvements in plants, stock, and machinery, and, in fact, every thing pertaining to the farm. Price \$2.50. By buying them in large lots I am enabled to furnish them to subscribers to GLEANINGS for \$1.75. If wanted by mail, 20 cts. extra for postage. To any one who will send \$2.95, we will send the book and GLEANINGS one year postpaid.**	
5 How to Make Candy**.....	45
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3 Winter Care of Horses and Cattle, Terry**.....	40
3 Wood's Common Objects of the Microscope**.....	47
1 Youman's Household Science*.....	1 75

BOOKS THAT I HAVE NEVER EXAMINED, BUT THAT ARE IN GOOD REPUTE.

American Fruit-Culturist, Thomas.....	3 00
American Weeds and Useful Plants.....	1 75
Burn's Architectural Drawing-Book.....	1 00
Broom Corn and Brooms; paper, 50c; cloth.....	75
Cements and Glue.....	25
Copley's Plain and Ornamental Alphabets.....	3 00
Fruits and Fruit-Trees of America, Downing... ..	5 00
Farming for Boys.....	1 25
Hop Culture.....	30
Harris on The Pig.....	1 50
How to Get a Farm and Where to Find One... ..	1 25
Insects Injurious to Vegetation; Plain, \$4 00; with Colored Plates.....	6 50
Money in The Garden, Quinn.....	1 50
Manual of Botany and Lessons, Gray.....	3 00
My Vineyard at Lakeview.....	1 25
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Pear Culture for Profit, Quinn.....	1 00
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Address your orders to

A. I. ROOT, Medina, Ohio.

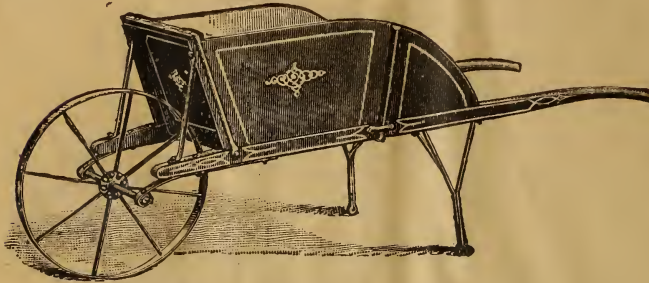
The Weekly British Bee Journal.

The British Bee Journal is now mailed to our address in packages, semi-monthly. In order to dispose of them, we offer them at present at \$2.62 per year, postage paid, beginning January, 1886. Will guarantee safe arrival of every number.

A. I. ROOT, Medina, Ohio.

❧ A * WHEELBARROW * FOR * BEE - KEEPERS. ❧

ALSO A WHEELBARROW FOR WOMEN, CHILDREN, AND
PEOPLE WHO ARE NOT VERY STOUT.



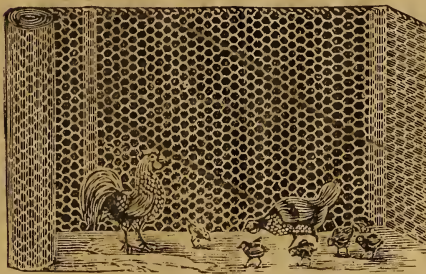
OUR 35-POUND WHEELBARROW, CAPABLE OF CARRYING 500 POUNDS.

them at their convenience, when times were dull. Well, friends, the wheelbarrows are here, and they are a surprise to everybody. We show you a picture above. We have two sizes—the smaller one weighing only 35 lbs., and yet it will carry 500 lbs. safely, and it can be packed so closely together for shipment that you can take the whole thing under your arm and walk off easily. The wheel has flat spokes instead of round. The different pieces are all cut and forged by means of dies. The legs are steel, so they will neither break nor bend, even if you bump them on the sidewalk. The springs are oil-tempered, with adjustable bearings, so you can tighten them up for wear. More than all, the wheelbarrows are the nicest job of painting and varnishing, I believe, I ever saw, for a farm implement. They are handsome enough to go around town with, and strong enough to do heavy work; and yet the price of the small size is only \$1.90, the same as our iron wheelbarrow. The larger size is \$4.50. The only discount that can be made is 5 per cent off for two; 10 per cent off for five, or 15 per cent off for ten or more. They can be sent either by freight or express. It is only five minutes' work to put one together.

I have several times felt as if I should like to try my hand at making a wheelbarrow of our strongest wood and our best steel, properly braced and arranged so as to give strength, and yet not weigh one ounce more than is absolutely necessary. At the Ohio State Fair last year I found a wheelbarrow that came so near filling the bill that I asked the manufacturers how cheaply they could make 100. The wheelbarrow was all I could desire; but the price, I thought then, was more than we could stand. During the winter, however, they made a proposition which I considered very reasonable, providing they could make

A. I. ROOT, Medina, Ohio.

GALVANIZED WIRE NETTING, FOR POULTRY INCLOSURES, ETC.



This wire netting comes in rolls 150 feet in length and 4 feet in width. This would give 600 sq. ft. of surface, and we are enabled to furnish it at the low price of one cent per sq. foot, or \$6.00 for a roll. Staples for fastening to the posts are 20 cts. per lb., and 1 lb. contains about 400 staples. About 1 lb. of these is needed for a roll of netting. The posts to hold it should be not more than 10 ft. apart, and it should be set in the ground at least 2 ft. You can put on a top rail, if you choose, but the salvage edge of the netting makes a pretty strong fence; and as the fowls can not see if they can not tell how high to fly; and after being bumped down several times they usually give it up. In putting it on the posts, draw the top of the salvage tight, and afterward draw the bottom down and fasten that. You can put a board a foot wide along the bottom, if you choose. This will prevent small chickens from getting through, and makes the fence one foot higher.

One advantage this netting has over wooden pickets is, that it does not catch the wind as they do, and therefore the posts are not so liable to be tipped over; besides it presents a very much more

ornamental appearance, as you will see by the cut. The meshes are two inches across; and where the wire crosses it is securely soldered together, for the whole fabric is immersed in melted zinc after the whole is woven together. The size of wire used is No. 19. This galvanized wire never rusts, so it will last a lifetime, unless it is damaged by careless running into it. If you want to make division fences, so as to keep different breeds from the same yard, it is better to have a board at the bottom at least one foot wide, so the fowls can not be gossiping through the wire, and pecking at one another. You will notice that one roll makes a yard nearly 40 feet square, and this is plenty large enough for 20 or 30 fowls.

Another advantage this netting has over wooden pickets is, that you can see what is going on inside so readily. The wind, also, has free access, which is quite an item during snitry weather. It should be shipped by freight. The weight of a single bale is about 50 lbs. It may be shipped from here or from New York or Chicago, as may be convenient.

If you want us to cut rolls, the price will be $\frac{1}{2}$ c. a foot extra. On two or more rolls, we can give a 5 per cent discount; on ten or more rolls, a discount of 10 per cent. As the above prices are very close indeed, they can be given only when cash comes with order. This wire netting can be used in a hundred different ways for protecting any thing. It makes very pretty and efficient trellises for running vines. As it is galvanized wire, the weather has no effect on it whatever.

P. S.—We keep in stock only the one width mentioned above; viz., 4 feet high, although you can have it made to order from 2 to 6 feet. The 2-foot width is just right for ducks, rabbits, etc. The price will be the same; viz., one cent per square foot. All other widths come in bales 150 feet in length. Where less than a whole bale is sold, the price will be $1\frac{1}{2}$ cents per square foot. If wanted by mail, add 2 cts. per ft.; or 15 cts. postage for 10 ft. Prices for smaller mesh, or mesh made of heavier iron, on application.

A. I. ROOT, Medina, Ohio.